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ORIGINAL ARTICLES.

EXTRA-UTERINE PREGNANCY, WITH REPORT OF CASES.

Presented to the Section on Obstetrics and Diseases of Women, at the Forty-eighth Annual Meeting of the American Medical Association, at Philadelphia, Pa., June 1-4, 1897.

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In considering the condition of extra-uterine pregnancy there are very many questions of great professional interest, some not yet finally settled, all relating to the condition; giving light upon its treatment is of vast importance to the practitioner. It is important that he should be familiar with all the more prominent symptoms of an accidental misplacement or deviation from lines of normal pregnancy.

All cases of suspected pregnancy in women who have had a longer or shorter period of sterility, should be carefully watched in the early months for symptoms of tubal gestation. I do not know of a single case of rupture, or the history of rupture with well marked symptoms of loss of blood, that the rupture did not take place before the twelfth week.

All these cases must of necessity first pass through the hands of the general practitioner, and are lost or saved through their appreciation of the symptoms and their ability to make a diagnosis.

If the real character of the accident goes unrecognized, the great majority of these cases of extra-uterine pregnancy perish; death is almost certain and in very many instances sudden.

They perish in the majority of instances because of the failure of the physician to make a diagnosis; they perish of hemorrhage, septic peritonitis, obstruction of the bowel, etc.

That there are instances of recovery in ectopic pregnancy, without surgical interference, we are not prepared or disposed to dispute, for there being instances of recovery we have the testimony of men who by their wide experience are entitled to speak with some weight of authority. Numbered among these are the eminent English surgeons, Tait, Greg Smith, Taylor and others. Recoveries are reported by a number of American surgeons.

Our earlier gynecologic literature, that antedating our advances in abdominal surgery, abounds in the reports of cases where symptoms and conditions, the entire clinical history, could only be interpreted in our present light as ectopic pregnancy.

These cases augmented the statistics of every practitioner's mortality. They were classed under the head of hematocele. There has been very considerable useless groping around by surgeons in settling the nomenclature of this trouble. We are gradually settling into a common sense simplicity of terms. The symptoms, the actual perils of the condition bother us more than those confusing, misleading or obscure names under which too many things medical and surgical pass or, to speak more accurately, stay. With names as with operations, the more simple and intelligible the better. Because exceptional cases recover, we can not afford the risks involved in delay, the long suffering, if not death, to which the patient is exposed. We can not determine in any given case the probability of recovery. We know this condition kills, that the only certain relief is good clean surgery and that in the hands of men with a prolonged surgical experience few die.

The word "variety" used in connection with ectopic gestation has very little practical interest to those of us whose sole object is to save life. Speaking for myself, from my own experience and observation, whatever may have been that of others, I have never seen in my own work, nor in that of Dr. Joseph Price (numbering together more than 175 cases), but one variety, that of tubal pregnancy. And I have seen them in all stages from the first to the tenth month, and have yet to see the first case developed in the broad ligament. I have seen the ovary stretched over and part of the capsule enveloping the child, which by some would probably have been called an ovarian pregnancy.

The symptoms of extra-uterine pregnancy are almost infallible. It is rare indeed for the symptoms of this condition to be taken as evidence of some other trouble, but it is not an infrequent occurrence for other conditions to be taken as extra-uterine pregnancy.

Lawrence Tait has made this subject one of such thorough investigation, and has taught us the lessons of his wide and successful experience, that it would seem that little aside from what he has said is worth saying. We can not do better than to follow his teaching and record as successful experiences. We can offer very little excuse for making mistakes in diagnosing this condition. There can be but two, ignorance or carelessness. It may occur repeatedly; it does occur that the practitioner recognizes the condition, but is without that surgical experience which would enable him to surgically deal with the condition. In this situation the duty is plain, that of promptly calling in the assistance of one as expert in the surgery of such cases as is at command. The duty is equally imperative upon the surgeon to promptly respond. Where the issue is one of life, no mere personal prejudices or questions of loss or gain should restrain or influence professional action.

As to those cases which go to term I will give my own opinion, deductions of my own experience. The possibility of these cases going to term is not disputed. Conclusions from my own observations may not accord with those of others of the profession. I have seen three cases at or near term. In each case the child was encapsuled in an amniotic sac and not in the broad ligament. My reasoning is that the fetus is

forced through the rent in the tube encapsuled in its amniotic sac. And if the placenta has sufficient attachment to continue the life of fetus until the placenta has made new attachments, the child continues to develop in its sac surrounded by the abdominal viscera, coming in contact with it, forming adhesions and in this way materially aiding and strengthening the walls of the sac. I am of opinion that the reason why we so often find the fetus absent in undoubted cases of tubal pregnancy is not only that the tube has been ruptured, but also the amniotic sac, and the fetus is forced into the general peritoneal cavity where a few days will suffice for its digestion.

As to just how soon the fetus can possibly be protected by the amniotic sac I am unable to say. I have found the fetus not longer than a Lima bean, but it was in those cases where the primary rupture and the operation for the relief followed immediately. It is rare indeed to find a child where there has been several attacks or several severe hemorrhages, but you find everything else, the ruptured tube, placenta and all that pertains to a ruptured tubal pregnancy save the fetus. I have seen a number of cases, from the second month on, where it could be clearly demonstrated that the child was within the amniotic sac. In this connection Tait uses the following language: "I have at the present moment lying in these very rooms a fetus of the full term which I removed from among the intestines, and round which nearly complete amniotic membranes were to be seen." I do not deem it possible that a child could live long at any period of gestation free in the peritoneal cavity. My conviction is that it would be encapsuled by the omentum or protected by an inflammatory barrier in some way. There are a number of cases on record, but there is very little to explain or show how long they had been so placed or how protected. Very many of the recorded cases give a very unsatisfactory clinical history and few of those interesting phases characteristic of these cases.

My case at term, reported some five years ago where both mother and child lived, was in the tenth month of gestation and in the amniotic sac. When the nurse attempted to wash the child she found that by the slightest rub of the wash rag she would take the skin off. The child would bleed from every point so touched, showing that the child was already being digested alive. The mother and child are today both living and well, the child a beautiful little girl. I will be pardoned here for a moment's digression. This case is reported in Gregg Smith's system of abdominal surgery as operated on by one Dr. Eastman, no one of the name known to belong to the profession of Philadelphia. This goes to illustrate the worthless character of the statistics of even eminent authority. This case is stated by Smith to be the only one in America where mother and child both lived. As to the manner of dealing with the placenta, where it is possible the placenta should be removed. Where it has not contracted adhesions outside of the pelvis, and involving bowel and mesentery in its attachments, there is probably less danger in its immediate removal than to treat it in any other way. It is only rarely that you can obtain a pedicle and control hemorrhage by ligature. The gauze pack is probably the only method in many cases by which hemorrhage can be controlled. Up to the beginning of the fourth month there is no trouble in controlling hemorrahge by ligature. From the fourth month on, hemorrhage is the most serious complication. The second method of dealing with the placenta is what is called the open method of treatment, the one used in my case of term with the result of saving both mother and child. In this case, for thirty-five consecutive days, this woman with an abdominal wound six inches in length, with the amniotic sac stitched to the wound, endured daily the packing of the wound with from four to five yards of bichlorid gauze, this over the face of the placenta, covering a space as large as the rim of a man's hat. It was attached to everything from the left cornu of the uterus, descending colon and part of the transverse colon and over the entire face of the left kidney. The placenta was black and gangrenous in appearance and owing to the desperate condition of the patient, three determined efforts were made to remove the placenta. These efforts had to be abandoned on account of the frightful hemorrhage. Gauze packing in each instance stopped the hemorrhage at once.

On the tenth day, when the first attempt at removal was made, her temperature dropped to 96 degrees. The temperature chart indicated variations of temperature from 96 to 105 degrees; this for thirty-five days. At this time the whole left side of the body seemed to contract just as the uterus does in labor, with free discharge of blood. I at once removed almost the entire placenta, cutting it loose with the fingers just as we do from the uterus in a partially detached placenta, meeting with about the same amount of difficulty. There was free hemorrhage which was controlled by gauze pack. This immense opening had almost entirely closed in a week's time. I am positive that after my experience with hemorrhage, sepsis and other accidents incident to this manner of treating the placenta, I would not again resort to the practice of the open method and leave the placenta to slough away. It is out of the question to talk of removing the placenta in these cases at time of the operation, for the patient would beyond doubt perish from hemorrhage. I believe it to be better to cut short the cord, thoroughly clean the face of the placenta, remove all loose membranes and clot and close the abdomen, trusting to absorption, or later, when the condition of the patient indicates the necessity for a second operation. This impresses me as the safer procedure because it can not possibly offer any poorer chance for the patient than the open treatment. When the placenta is placed in the pelvis and is attached to either ovary, tube, uterus or pelvic wall, and it may only be slightly to abdominal viscera, the entire uterine mass can and should be removed at the time of operation at any cost, but when the placenta has formed attachments to vital organs and over a large surface, the patient would perish if removal of the placenta was attempted. These questions can only be decided by those who have many times dealt with such cases; it is nonsense to say that any surgeon can deal with the complications always possibly involved in this condition. He must be an abdominal surgeon trained by many experiences, with a knowledge of all the varying conditions met with in these cases and the surgical confidence to grapple with any possible emergency. The reference of these cases to those trained by special study, long clinical experience and observation brings no opprobrium upon the general practitioner, whose care is of the general public, the treatment of the more general ailments. His time and study are too much taken up for him to become expert in major operative procedures. The common diseases of women and children,

and obstetrics, one of the most important branches of medical practice, open a wide field for usefulness and honor. The wounded patient, whether by disease or accident, is entitled to the best skill.

In the report of nine cases in the London hospitals, in the later months of extra-uterine pregnancy, five perished, certainly a large mortality. These cases were probably in the hands of some of the best general surgeons in the world, but we should infer from the mortality that they were men not specially trained in abdominal surgery. In extra-uterine pregnancy there is no time for the discussion of symptoms, easy chair deliberations, for consulting the books or literature of the subject, collecting an armament of instruments—there is always urgency and there should always be readiness. Ninety-nine times in a hundred the operation is to save life from hemorrhage. Usually sufficient time has already elapsed to leave the patient pulseless and in collapse. This collapsed condition results from two causes: 1, from direct loss of blood; 2, from intraperitoneal pressure on the abdominal sympathetic nervous system. The urgent indications are the immediate stoppage of the hemorrhage. The only way to do this is to open the abdomen and tie the vessel; *no matter what condition of collapse the patient is in, so she is not actually dead.*

More than half the cases I have operated on have been pulseless at the wrist, and to all intents and purposes almost at their end. In many of these cases, as soon as the abdomen was opened and the ligature applied, the hemorrhage stopped, and after the great quantities of free blood in the peritoneal cavity, in many cases amounting to two or three quarts, was removed, there would be a moderately good pulse at the wrist. A statement made by Dr. Hobart A. Hare of Philadelphia may have some bearing in this connection. In a discussion, he called my attention to experiments he had made by forcible injections of water into the peritoneal cavity of a dog, and that it would kill him much quicker and with a very much smaller quantity of water than if injected into the bowel. I believe this goes to explain the quick recovery from the grave symptoms of ruptured extra-uterine pregnancy after operation. The hemorrhage is stopped and the pressure removed from the sympathetic nervous system. If the practitioner has not or can not diagnose a case in hand correctly, it is criminal for him to permit his patient to go an suffering while he refuses or neglects to call in advice. It is to be presumed that when a man operates for extra-uterine pregnancy, that he has made a diagnosis. There can be but little shock in an operation that involves only two inches of the abdominal wall, the delivery of the specimen and the application of the ligature. How is it possible for any one to justify delay when we compare this procedure with the actual condition of the patient, hemorrhage and intraperitoneal pressure, with everything pointing to speedy dissolution. Later, in the surgical treatment of this condition, say from the fourth month to term, before operation, there are questions to be considered more important than that of hemorrhage. We have then to consider the dangers during and after operation and how to deal with them. It is these very dangers and how to deal with them that have interested the profession. The later months with the attendant risks are anxious months for the patient and attending physician if real conditions are realized. The profession is not of one opinion as to the plan of surgical procedure and after-treatment in cases of extra-uterine pregnancy when they have passed the fourth month.

I am of the opinion that no matter at what period of gestation a woman may be in, an effort should be at once made to end the pregnancy by surgical means, for there is not an hour that the patient is not in danger, and every day that the fetus is allowed to remain the risk to the patient is increased, and for that reason there should be prompt, unhesitating interference to terminate it.

The united surgery of the world has only been able to save from eight to ten children where these cases have reached term, with a mortality to the mother and an anount of suffering that by no possible argument, with the simple claims of humanity in the balance, could justify.

If the peritoneum can be left with everything removed, with a well-placed glass drainage at the lower point of the wound, the result will be perfect. If the hemorrhage can not be controlled without a gauze pack we should then depend on gauze drainage, which, while it will save life, greatly prolongs the after-treatment. The toilet of the general peritoneal cavity should be perfect. It should be faultlessly clean and kept so. If there has been contamination from any source there should be thorough cleansing with clean boiled water.

Case 1.—Mrs. Y., operated on Jan. 20, 1896, for extra-uterine pregnancy, supposed to be in the tenth week of pregnancy. About two quarts of liquid and clotted blood were removed at the time of operation. The child was partially digested. The patient made a good recovery.

Case 2.—Mrs. L., patient of Dr. Burroughs, Trenton, N. J. Operation April 19, 1896. Tube ruptured near its end. The placenta and about a quart and one half of blood obtained. Glass drainage for three days. Patient made a good recovery.

Case 3.—Mrs. S. S., patient of Dr. Edwards of Williamstown, N. J. There was not a very large quantity of blood, probably about a quart. Rupture had taken place several weeks before I saw her. Liquid portions of the blood had been absorbed. Fetus was not found. Placenta and tube were removed. Irrigation and glass drainage. Tube removed on the third day. Satisfactory recovery.

Case 4.—Mrs. T., patient of Dr. Hubler, Pittston, Pa., Dec. 5, 1896. Operation. A moderate quantity of blood, irrigation and drainage. Placenta, tube and ovary all removed. Recovery.

Case 5.—Mrs. W., patient of Dr. Shea. Extra-uterine pregnancy; about the twelfth week. The contents of sac suppurating. Patient septic. The sac, placenta and tube were removed. Irrigation. Glass drainage for four days. Recovery.

Case 6.—Mrs. L. G., patient of Dr. Nock, Philadelphia. Mrs. G. is a thick-set woman, twice married, and during her first marriage had a number of provoked miscarriages, some of which must have left the tube in condition favoring extra-uterine pregnancy. After her second marriage both she and her husband desired children, so were much pleased when the wife developed symptoms of pregnancy. They had been married three years when, as they supposed, this much to be desired accident happened. She missed her period on Jan. 11, 1897, followed by sick stomach and severe pain in the abdomen on or about February 15. She suffered with very severe pain in the abdomen followed by a weak faint feeling which sent her to bed. This condition was followed by a slight bloody discharge which continued to increase until March 16. During this time she had a number of these attacks of pain followed by a weak faint feeling, with constant tenesmus and desire to go to stool, but could not accomplish anything. On March 16 I was called to see the patient by the following note from her attendant, Dr. Nock: "I have in my opinion a case of tubal pregnancy with rupture. Can you come at once and operate?" I operated at once and found the conditions as stated by her attendant correct. The woman made a beautiful recovery. In this case no fetus was found; the rupture probably had forced the child into the peritoneal cavity and it was there digested. The placenta was living and adherent to the end of the tube.

Case 7.—Extra-uterine pregnancy.—Mrs. M. C., age 34 years; one child 5 years old, a boy; always a strong, healthy, robust woman; had one miscarriage; last menstrual period on

Nov. 28, 1896; December period missed. On Jan. 28, 1897, while washing her feet, she felt some little pain in the abdomen. After going to her room the pain increased, accompanied by symptoms of fulness in the bowels with severe tenesmus. She went to the water-closet feeling that the bowels must be relieved at once. Nothing passed from the bowel. The fulness and tenesmus increased. She made ineffectual efforts to relieve the bowel; this is the last she remembers. Her husband found her in a dead faint on the floor, very pale and pulseless. A physician was called who said she was suffering from peritonitis. The severe pain and distension of the abdomen he said all indicated peritonitis. From this time on until March 14, when I first saw her, she had a number of paroxysmal attacks of great pain accompanied with great weakness. There was a slight bloody discharge almost continuous after the first rupture in January. She had all the classic symptoms of extra-uterine pregnancy: Sterile for a number of years; a missed period; sick at the stomach; pains in the breast; intense pain with collapse and symptoms of hemorrhage, in the constant slight discharge of blood as in miscarriage, and at the end of the twelfth week a shedding of an entire cast of the uterus. At the end of the fourth month I was asked to take charge of her. Her condition was desperate. A weak thready pulse, a peculiar nervous condition so often found in these cases, bordering on insanity. She could not sleep and could not be persuaded but that death was impending. The physical examination revealed a tumor extending to the umbilicus, hard and tender and almost as a fibroid. The uterus was pushed back and fixed in the pelvis. The cervix was soft, open and bleeding as in miscarriage. The entire pelvis was filled up with the pregnancy and blood clot. She was at once sent to Dr. Joseph Price's hospital and, as soon as she could be prepared, with Dr. Price's assistance I removed the entire mass, capsule, baby, placenta and all.

I do not know whether the baby was alive when delivered. I rather think not from the appearance of the child, and it was the opinion of those present that it was dead. I do not know that the placenta was very much alive. Some bowel stitching had to be done and hemorrhage controlled by the gauze pack. The placenta was in front of the uterus and over the left tube and filled up the left side of the pelvis. No ligatures were used. The appearance of the gestation sac was that of muscular tissue adherent to everything it came in contact with; it had no connection with the broad ligament except at those points where it came in contact with it, as it did with other pelvic contents. I have seen three pregnancies at term and many others at different stages of pregnancy, and I have the first one to see that was located in the broad ligament, but I have seen a number that had the appearance of being so located.

The capsule had much the appearance of the thickened broad ligament. In many cases of operation for the removal of extra-uterine pregnancy, it has to be removed from under the broad ligament and not from within its folds. I have now had half a hundred of these cases in all stages of their development and have never found one in the folds of the broad ligament. This has been the experience of my brother in now nearly 150 of these cases, with many of which I assisted him; nor have either of us ever seen a case of hematocele in all our work.

This patient has made a most satisfactory recovery. As she recovered from her accident and the operation, her mental condition constantly improved so that at the end of ten days her mental condition was restored. I have seen the symptom of anxiety and fear amount to terror of approaching death so that some one had to be at the bedside to constantly assure them that all was going well with them. I had one case that this condition lasted for ten days, with every other symptom the most favorable. This patient cleared up as if a veil had been removed, and was as bright and happy as she was before miserable and unmanageable.

The child in the case just reported was in its own amniotic sac. I have seen three extra-uterine pregnancies at term, or so nearly that no one could say they were not. The children were all delivered alive, but two of them only lived for a short time and the other is living and now over 4 years old. They were all in the amniotic sac and the head of one was well up under the ribs. I do not believe that an extra-uterine baby can live any great length of time in the free peritoneal cavity Those that do and go on developing have been forced through the rent in the tube and encapsuled in the amniotic sac with sufficient attachments. If the rupture in the tube ceases to bleed, the pregnancy goes on to term or operation or the death of the child or the mother, or both, more frequently both.

THE VAGINAL ROUTE IN OPERATION FOR RUPTURED TUBAL PREGNANCY.

Presented to the Section on Obstetrics and Diseases of Women at the Forty-eighth Annual Meeting of the American Medical Association at Philadelphia, Pa., June 1-4, 1897.

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Ruptured tubal pregnancy has been so forciby kept to the front during the past fifteen years, that many of the profession have been led to think it is a condition in which, without exception, the life of the individual suffering from it is in great danger. We are obliged to believe it is not so dangerous in many cases, and that quite often it escapes attention either from the little discomfort caused by it, or from the physician failing to realize the condition and procrastination allowing the absorption of the escaped blood. This latter variety can not include a very large percentage of cases however, or it would more often be found as a complication of other forms of pelvic disease. We have reason to think also, that occasionally Fallopian tubes are ruptured by over-distension from blood, not due to pregnancy, but mistaken for that condition. We have recently had such a case in our own practice.

It is not the purpose of this paper to deal extensively with the general subject of ruptured tubal pregnancy, but to mention particularly the variety best operated on through the vagina. It is that special variety in which the hemorrhage has not been the most severe, has been stopped by the outer pressure of the lost blood and in which the omentum, either alone or with other structures, has formed a barrier to its progress upward into the abdominal cavity, that we think can be best operated for through the vagina.

It manifestly would not be available to select the vaginal route to control hemorrhage from an ovarian artery, or to remove from the abdominal cavity a large amount of free blood. But for those cases in which hemorrhage has stopped and the free blood has remained in the pelvis and is retained there by a petition from nature, no other route is as safe, quick and efficient as the incision through the roof of the vagina behind the cervix. While this is not the only variety of ectopic pregnancy in which this route is satisfactory, we wish to limit our remarks to this one kind.

The clever work of Howard Kelly, Miller of Utica, Reynolds and others in this operation, is well known and leaves very little to be said concerning the technique of the operation. The paper that Kelly read

before the American Gynecological Society last year, mentions thirteen cases operated on in this manner with but one death, and that one not due to the operation *per se*. He has given in his paper the precise details and steps of the operation as well as the dangers of it, and we can only endorse his description. We have not found it necessary to continue the gauze packing as long as he recommends, and our patients have been allowed to sit out of bed about two weeks after operation, and to walk about a week later.

The difficulty concerning this method of operation is in differentiating the cases to which the vaginal route is applicable from others that demand abdominal section. We must be quite certain the loose blood is in the pelvis only. Of this we can never be absolutely certain, and for that reason we should be prepared for abdominal section in all cases of diagnosed ruptured tubal pregnancy that are to be attacked through the vagina. Lest valuable time be lost by attempting the vaginal operation first, in cases requiring laparotomy, considerable care is necessary in the physical examination of the cases. A careful examination through the abdominal walls is not sufficient. Vaginal and rectal explorations are also necessary. By all these methods we can be very certain as to whether a complete operation through the vagina can be made. And yet, in our last case of ruptured tubal pregnancy we made the mistake, and had the chagrin of being unable to remove the larger part of blood through the bulging cul-de-sac of Douglas, and had to do a section above. Kelly has called attention to the absence of hemorrhage during and after the vaginal operation. He has also invited us to notice that removal of pelvic viscera is not so common in the vaginal as in the abdominal operation for ruptured tubal pregnancy. This may or may not be advantageous. It is quite possible that Fallopian tubes that have produced tubal pregnancy and have ruptured, may be of future benefit to the patient. *Per contra*, may not their retention be a source of danger to the life of the individual, either of repeated tubal pregnancy or of sufficient diseased condition to cause future prolonged misery of that life, or even worse. This matter is still *sub judice*. On the whole, the writer feels that it is better to favor the course of leaving as much of the pelvic organs as possible, and to allow these organs an opportunity to be restored to a functionating condition.

Nature sometimes does wonderful things in this direction and we should allow her the necessary opportunities. We can feel sure the tube has recently been permeable else it could not have been pregnant. The writer has done six cases by the vaginal route, all of which have promptly recovered, and in none of them has any severe pelvic trouble followed. We should also bear in mind that many of these patients are in a condition so bad that they stand mutilation very badly, and therefore should not be made to bear any traumatism that can possibly be avoided.

The histories of the writer's cases are as follows:

Case 1.—Mary, colored, 23 years old, was referred to me and sent to Columbia Hospital Sept. 17, 1894. Her history was as follows: She had been married two years and was said to have had two abortions, the last of which had occurred Aug. 15, last, and was of a fetus of six weeks' development. As her menses were regular she was sure she had been pregnant in August, but the doctor told me, after careful questioning, that he had been called after the fetus was supposed to have been passed, and she was yet having considerable flow and pelvic soreness. She had not been well since the so-called mis-carriage, and had been flowing at intervals during the interim.

An examination revealed a slightly enlarged uterus, high and fixed anteriorly; abdomen prominent, a firm swelling in the right inguinal region that extends down behind the uterus to half way down the posterior vaginal wall; here it is boggy to touch and has the feel of an abscess pointing to open; the lowest point of the accumulation is thought to be most fluid. From the history, ruptured tubal pregnancy was diagnosed, but the physical examination led us to also suspicion the presence of pus; this was added to by the patient telling us she had been having chills and sweats.

Three days after admission the abdomen was opened and dense adhesions to the abdominal wall found; the pelvis was filled and the color of the tumor indicated blood rather than pus; closed incision and placed patient in lithotomy position. The soft lowest point of the mass was opened through the vagina with scissors, and through the opening escaped a quite large quantity of dark, fluid blood. The opening was enlarged and about two quarts of blood clot, fetal membranes and fluid blood removed. The cavity thus made extended behind and to both sides of the uterus and up to above the sacral promontory. It was irrigated freely and drained. Both appendages were found enlarged and in the adhesions, but were not interfered with in any respect. Menstruation occurred normally two weeks later while in the hospital, and on October 25, a small mass was yet present on either side of the uterus. However, as she was feeling very well and had no pelvic pain whatever, she was sent home to return if trouble occurred. The husband of this patient during the past winter told us she has had no pelvic trouble since.

Case 2.—Mrs. B., white, mother of two children, the youngest being 5 years old, was seen in October, 1895. She had not missed a period, but from various symptoms she suspicioned pregnancy and abortion, as she passed some membrane from the uterus, accompanied with great pain and some hemorrhage ten days before. An examination found the uterus slightly enlarged and softened and the cervical canal patulous. An examination demonstrated the presence of a slightly movable and nodular mass behind the uterus and ectopic pregnancy was diagnosed. The same day she was etherized and the uterus explored. It was found empty, but three inches in depth. The pelvic mass was now opened by a small transverse cut through the vaginal wall behind the uterus and its contents evacuated. It was principally coagulated blood and a small amount of membranes; a tubal cast of blood was removed; no fetus was found. As both appendages were high and adhered, I did not attempt to loosen or remove them. The sac was irrigated with boiled water and packed firmly with iodoform gauze.

The packing was removed next day and the cavity irrigated; no evidence of hemorrhage was present and no packing was inserted; vaginal douches of 1 to 5,000 corrosive sublimate solution were daily employed for nearly three weeks, when she was considered well.

Case 3.—Mary C., white, single, 23 years old, was seen at her home June 8, 1896. She had missed one period but seemed to attach no significance to that fact, pretending to have gotten her feet wet during her last period. She was very pale and suffering from severe pain in the pelvis and rectal tenesmus. It was only after considerable difficulty that her consent to a vaginal examination was secured. Upon introducing the finger into the vagina it was found to be quite capacious and the cervix slighty lacerated on the right side. Behind the slightly enlarged uterus was a boggy tumor that did not seem to extend much above the symphysis and was most marked on the left side. Upon withdrawal of my finger it was found to be covered with blood. She then acknowledged she had been treated instrumentally by an abortionist, fearing she was pregnant. This had occurred a few days before, after which, on reaching home she had gone to bed on account of severe cutting pains through the pelvis; this was soon followed by a gush of blood from the vagina, and bleeding had continued at intervals nearly all the time since.

Next morning she was chloroformed and a small opening made into the mass behind the uterus through the vaginal vault. A few ounces of thin blood and some clots poured out through this opening and a finger removed more of the same material, together with some shreds that resembled fetal membranes, and felt a roof to the cavity. The left tube was found to be low, about an inch in diameter, and in its wall was found a small opening, through which was felt protruding thin membranes. These were pulled out, and as no bleeding seemed to be going on the sac was washed out and packed gently with iodoform gauze. She made a perfect recovery and was out of bed on the fourteenth day. No fetus was found, but to the naked eye the character of the membrane was unmistakable.

Case 4.—L. L., colored, 22 years old, married, admitted to Columbia Hospital Sept. 20, 1896; had had two children, the last two years before and no abortion; menses began at 18

years of age, were regular, of fair quantity and slightly painful. The last two periods had differed however, the first being very scant and of short duration, while the last had been continuous during the four weeks previous to admission. She complained of severe pain in the lower part of the abdomen and of great weakness. An examination revealed blanched mucous membranes, great emaciation, a very frequent and small pulse and rapid respiration. A mass was found extending from the pelvis behind the uterus, upward about 7 cm. above the pubes, very sensitive to the touch and slightly fluctuating. The uterus was found to be slightly enlarged, fixed anteriorly and above its usual plane. The lower part of the mass was quite soft and encroached on the vagina.

September 24 vaginal puncture was made and two liters of solid and fluid blood with fetal membranes evacuated. Free irrigation of the cavity was done and as no bleeding was present, nothing further was deemed necessary. The left appendage was found very much enlarged and ragged, but was not disturbed but packed for a few days with iodoform gauze. Two weeks later she sat out of bed and was allowed to go home one week later, though the left tube was still enlarged.

Case 5.—Mrs.— had had four children and one abortion, but during the four years previous to this illness had not been pregnant. She had missed one period but did not consider herself pregnant, as no symptoms of her former pregnancies had been present and menstruation had not been regular. She had been working very hard one day arranging furniture, and was uncomfortable on going to bed. During the night she awakened with great pain in the pelvic region and felt very faint. Thinking she had worked too hard and that it was necessary to rest, she did not arise in the morning. Later in the day she felt cold and chilly and sent for the writer. I was absent from the city for the day and she did not call another physician, and did not send again for me until two days later. On Sept. 28, 1896, an examination revealed the uterus to be high in the pelvis and to the front; behind this in the cul de sac was a mass, that resembled a pus tube ready to rupture into the vagina. This sac was mistaken for a pus collection, and later in the day, with the assistance of her husband, she was chloroformed and the sac opened through the vagina. To my surprise no pus came away, but instead about eight ounces of fluid and coagulated blood. As the top of the sac seemed to be firm and the appendages could not be easily palpated, they were left undisturbed and the cavity emptied of clots and a material resembling early fetal membranes. The cavity was quite firmly packed, as there was a slight tendency to hemorrhage. The cavity was again emptied on the third day and lightly packed. She made a good recovery.

Case 6.—Mrs. H—, white, 27 years old, seen in consultation at Chevy Chase, Md., January 7, 1897, with Dr. E. A. Sellhausen. History: Married one year, menstruated regularly until November 15, when flow not appearing at time took a box of Chichester's pennyroyal pills, twenty in number, during three days, and on the 24th of that month began flowing profusely and with extreme pain. This was the first painful menstruation she had ever experienced. The pain was so severe that she collapsed, and it lasted all night and well into the next day. She remained in bed several days, suffering with vomiting and great exhaustion. At the time I saw her the pulse rate was but 96, and feeble, and the temperature 102. The uterus was slightly enlarged and pushed high to the left and front by a mass to the right that was slightly movable and fluctuating; it was rounded and, according to Dr. Sellhausen, gradually increasing in size. Its contents were thought to be blood from a ruptured tubal pregnancy, or pus. Advised operation, and as conveniences were not at hand it was thought best to move her to a hospital, which was done the next day, after her temperature was found to be 103 degrees. January 9 opened through vaginal wall into tumor and evacuated the cavity that extended across pelvic cavity. Still higher to the right was found a cyst about three inches in diameter that was thought to be an ovarian cyst and was evacuated as well. Irrigated with normal salt solution; after removing considerable débris that was thought to be fetal structures, packed with gauze. The pulse fell from 118 on the morning of the operation gradually to normal on the fourth day, and the temperature took a similar course from 103.5 degrees. She made an uneventful recovery and left the hospital within three weeks.

Conclusions.—In concluding we would urge:

1. That the vaginal route is preferable for operation for ruptured tubal pregnancy when the hemorrhage has ceased or is slow, the escaped blood limited to the pelvic excavation, and especially if a limiting diaphragm has formed above it.

2. That the vaginal route is freer from shock, is less liable to permit infection and furnishes better drainage.

3. That there is less liability to the removal of the adnexa than when the abdomen is opened.

4. That the period of convalescence is shorter and devoid of many of the usual complications of abdominal section.

1404 H Street.

VAGINAL SECTION.

Presented to the Section on Obstetrics and Diseases of Women, at the Forty-eighth Annual Meeting of the American Medical Association, at Philadelphia, Pa., June 1-4, 1897.

BY LEWIS SCHOOLER, M.D.

DES MOINES, IOWA.

By the term section is meant an ample opening for the extraction of the fetal membrane, as well as the fetus itself, if present. To Recamier is awarded the piority, although unintentional on his part. He, no doubt being impressed with the teaching of the day with reference to a hematocele, which was, but a short time ago, the same as the teaching in regard to peritoneal and intraperitoneal affections. To see why this should have been so one has but to recall the unfavorable statistics with reference to many surgical affections. Lister had not then promulgated the advantages of asepsis and antisepsis. Bacteriology had not then become a science. In fact, the profession was far more ignorant regarding the causes of disaster than they are now.

The science of diagnosis of pelvic troubles was crude in the extreme. Crude for lack of accurate pathology; and while the strides toward accuracy in this respect have been great and rapid, the student of twenty years ago must often feel chagrin when he recalls how much of what he then called knowledge but now knows that it was not in reality useful knowledge, for the advancement of the age has forced him to discard it for the reason that all of our pathology was obtained from the dead subject. Today clinical observation with operations during all stages of inflammatory processes, from the earliest to the latest, has furnished the pathologist with an abundance of material and has also familiarized the operator with the microscopic aspect, which of itself is of untold value.

Two thousand years of empiricism and conservatism had accomplished little or nothing. Human suffering and surgical advancement demanded something more radical and more definite as well as more successful.

Working along these lines, in a variety of cases, principles were evolved that have completely revolutionized the practice of the older gynecologists. The gain to mankind in general and to womankind in particular can not be computed. That errors have been committed by ambitious and unqualified persons is apparent, and may have retarded scientific work in some quarters; in others it had but helped to emphasize the need of well-defined principles.

Most of us were taught that diagnosis of extrauterine pregnancy was an impossibility and as there was no treatment the diagnosis was no great loss. Today we diagnose with remarkable accuracy, operate without fear and save the lives of many women. We have learned how to prevent sepsis and to control hemorrhage; we have learned that the evacuation of

clotted blood does not retard, but with proper precautions hastens recovery.

Having arrived at this point it would seem that the remainder of the distance to be traveled by the gynecologist was not beset with many difficulties. The route, however, divides right here, and what may be the proper course in one case may be decidedly dangerous in another. The infected and the uninfected, the complicated and the uncomplicated, each requires investigation. Two avenues are open, neither is safe, absolutely, as a routine. The advantages of the vaginal route are to be found in the cases where pus abounds, and where contamination of the abdominal viscera would most certainly occur were the collection attacked by that route. The pus is easily evacuated without the risk of shock, hemorrhage or contamination, and with the minimum of mutilation. Danger of infection from irrigation or mopping is not even a possibility. Breaking up of adhesions, causing bleeding, necessitating clamps or ligatures, is greatly lessened, as in the great majority of cases no foreign body is left in the wound except temporarily. In well-marked uninfected collections, with the membranes adhering to the ruptured tube, it is also possible to remove them with little or no trouble by this method, and when so done the operation, even here, possesses advantages, although it is in these cases that the abdominal method is frequently to be preferred for the reason that when the abdomen is opened the placenta may be safely removed and the hemorrhage controlled. The ligation of all bleeding vessels is done under the guidance of the eye. The operation is short and should not be followed by shock or secondary hemorrhage. The latter is an accident which sometimes occurs after the vaginal operation, requiring a laparotomy at a later date, as happened in one of my own cases. Circumstances of this kind have induced operators to recommend and to practice being prepared to make a laparotomy in the same case where the vaginal method fails or is unsatisfactory. It may be said, however, that where the vaginal wall is incised and irrigation and drainage used nothing is sacrificed by the operator. That the generative function is unimpaired, save in so far as it is interfered with by the cause which requires surgical interference; whereas by the abdominal method laceration and ligation may necessarily cause the sacrifice of an ovary or a tube.

Adhesions of intestines to uterus, tube or ovary may be greatly enhanced, while by the vaginal method it would not be at all influenced, this being, in some cases, of inestimable value afterward. It is urged by some that hernias are equally as frequent in the vagina as in the abdomen. This I do not believe; though it would not be strange should it occur oftener than it does. Healing by first intention and accurate approximation of incised tissue are not to be thought of in the vagina. Healing by second intention is alone expected and is often delayed and hindered in order to be sure that all the cavity is drained and obliterated, while in the abdomen in all properly selected cases the edges of the wound are carefully approximated and closed without drainage. The peritoneum and the different layers of tissue may be sutured separately, if deemed of advantage, though to my mind it is far from being essential. It is in these cases that we expect the greatest strength in the wall after a section. Where infection already exists or accidentally occurs at time of operation or where drainage is a necessity, a portion of the wound usually heals by second intention, just as does the wound in the vagina; and here my observation teaches me that the abdominal hernias exceed the vaginal. Ligatures themselves, when of silk, sometimes fail either of absorption or encystation and become a source of infection, locally causing abscesses and sinuses, necessitating an operation for their removal, an operation, too, no less formidable than the first and sometimes with greater danger of infection.

It is within the experience of every operator that the virulence of pus differs within the widest limits governed by age and the character of the germ. Few are there who have not opened the abdomen and found pus in abundance, which after its removal seemed to leave no deleterious effect behind, while *vice versa*, a small or recent collection was possessed of such virulence that no amount of asepsis, by irrigation or otherwise, seemed to lessen its force in the least. Could we determine this in advance it would in many instances be the governing factor in not only the cases we are now considering but with many others with which we have to deal.

The strongest objections urged against the vaginal operation are that it is not a definite operation, that damaged tissue is necessarily left behind and that bleeding vessels are unseen and may produce disastrous results, that the conception does not take place in the tube and that the product is not always found between the folds of the broad ligament, and when found free in the abdominal cavity may even glide beyond the reach of the operator, or if within reach is found to have reached too great development to permit extraction through so limited an opening.

Again, it is claimed in pus cases (and it is certainly admissible to consider them here, as pus sometimes present is a complication and again through mistakes in diagnosis, is found to be the identical condition with which we have to deal), that a cure is not effected and that abdominal section is at last the only source of relief. This is claimed to be the observation of many able operators of large experience.

In other cases it is claimed that a small amount of relief is obtained and the woman suffers on in silence rather than undergo another operation, while the operator classes the cases among the cured. How much of this is true is difficult to estimate. That in some cases palliation is the only result is doubtless true. The same may, however, be said of abdominal operation, not only when performed for this but for many other afflictions. While the more radical operation has the advantage, so far as definiteness is concerned, it is too radical sometimes. Important organs are too frequently sacrificed. The swing of the pendulum is already more conservative and the assertion that it is cowardice instead of advancement will have to be supported by argument and by facts capable of demonstration before the position taken by able and experienced gynecologists will be yielded. Since human happiness is the end sought by all it behooves us all to lay aside all prejudice and carefully record our observations only after a sufficent length of time has elapsed to insure their reliability. Preconceived theories are of no value unless supported by facts, and beliefs are of no value unless they are capable of demonstration.

If after the lapse of time the vaginal operation for extra-uterine pregnancy is found to relieve a large percentage of cases, with safety and dispatch, it will

take its place as a legitimate life-saving operation. If not it deserves no better fate than to be forgotten by gynecologists, and the sooner the better.

Byford has recently reported 162 cases of vaginal section with only five deaths, and three of these cases should not have been operated upon by this method.

DISCUSSION ON THE PAPERS OF DRS. PRICE, BOVEE AND SCHOOLER.

Dr. J. HENRY CARSTENS of Detroit—These papers cover the ground of extra-uterine pregnancy pretty thoroughly, although Dr. Bovée and Dr. Price do not seem to agree. I think they are really both right. I would not like to say that we should do one operation always. Dr. Schooler and Dr. Bovée admit that when we have acute cases with active hemorrhage, the best thing to do is to open the abdomen, ligate the artery and then we have no trouble. When we have a case like Dr. Bovée speaks of, where the active symptoms have ceased, where the tube has dropped down, has become firmly adherent everywhere, it is reasonable that we should puncture the cul-de-sac, let out the blood and allow the placenta to gradually dissolve and come away with the discharges without much shock or danger to the woman. That is my method of practice. I wish to most emphatically dissent from the doctrine advanced by Dr. Price, that in case of extra-uterine pregnancy which has advanced to the fourth or fifth month, we should not take away the placenta at once. I hold that this is very dangerous and serious and very bad practice. If we have a case of pregnancy only three months advanced, we can shell out the whole thing without trouble, ligate the pedicle and close up the abdomen. When we have a six months' pregnancy with a large sac adherent to the left side of the diaphragm, the hemorrhage we get in such cases is frightful, and the woman is in great danger, in the hands of an ordinary man at least. She would not perhaps be in such danger in a hospital in the hands of Dr. Price, where he has all the facilities, but in the hands of a less experienced man and in a private house, it is dangerous practice, and it has been so proven over and over again. If the records of cases of this kind where men attempted to do too much could be collected, we should find that the mortality is frightful. I know of a number of cases that have not been placed on record. We hear only of the cases that recover. It is better practice in my judgment in cases of extra-uterine pregnancy at the sixth or seventh month to simply open up the sac, take out the fetus, stitch the sac to the external abdominal wall and let the placenta dissolve. If it is done aseptically you will have no trouble. This is the best practice for the average general practitioner who has to do this operation in emergency cases. In exceptional cases the experienced surgeon may safely take out the sac.

Dr. L. H. DUNNING of Indianapolis—In reference to ectopic gestation, I am very much of the opinion expressed by Dr. Carstens, that there is a great deal of truth in the statements of those gentlemen who oppose each other in their methods. Yesterday I stated that it was my privilege to see two old cases which ruptured early, and I saw them four or five weeks after rupture. The history was clear, yet months had elapsed since rupture had taken place. A large hematocele had opened through the vagina, and the patient made an excellent recovery.

I want to say a word here relative to the experience of Dr. Price regarding broad ligament pregnancy. I believe he has made the statement that he has never encountered a case of broad ligament pregnancy, and that he disbelieves in the existence of this form of pregnancy. I do not believe that he wishes to convey such an idea, and yet we should have this thought in our minds in dealing with every case at full term. Here are two cases which demonstrate beyond peradventure, that broad ligament pregnancies do occur. In the first case, because the picture of dissections made from the frozen subject shows the placenta was attached beneath the abdominal walls between the muscular coat and peritoneal coat. I have myself encountered one case which I operated on two and a half months after labor and enucleated the fetus and sac without rupture, the same as we would enucleate an intraligamentous cyst retroperitoneally. The placental attachment was in the tube. It was three quarters of an inch thick, distinctly separated from the broad ligament covering and might have been removed without trouble. As it was we enucleated the fetus and sac without hemorrhage two and a half months after labor. The only point I contend for is that we must recognize the fact that there is such a thing as broad ligament pregnancy.

STUDIES IN GYNECOLOGY FROM THE SERVICE OF THE WOMAN'S HOSPITAL OF PHILADELPHIA.

Presented to the Section on Obstetrics and Diseases of Women, at the Forty-eighth Annual Meeting of the American Medical Association, at Philadelphia, Pa., June 1-4, 1897.

BY ANNA M. FULLERTON, M.D.

PHILADELPHIA, PA.

My paper does not pretend to be a contribution to the most interesting and valuable subject of surgical gynecology but rather a plea for what may be termed preventive gynecology, to which perhaps we have given too little heed in the past.

Not that I would in any way decry the brilliant and skilful results attained by surgical gynecology in this day, for it is too true that diseased conditions affecting the pelvic viscera very frequently result in the production of organic lesions which induce chronic invalidism and render the functional activity of the generative organs a menace to the health and even the life of the patient. Too often, however, the operator himself realizes that in the removal of diseased pelvic organs he is but cutting away, as it were, dead twigs and branches from a plant which has a worm at the root. It is not a matter of surprise, therefore, that when the same social conditions must continue which have originally caused disease, a speedy recurrence is found of the manifestations of ill health. It has not been uncommon in my experience, after having removed pus tubes for a patient, to have her return suffering from an acute attack of gonorrheal cystitis, endometritis or vaginitis. To insure against the recurrence of an endometritis, at least, it is always best I believe in such cases to amputate the uterus at the same time that the appendages are removed.

Practically, the performance of these very radical operations upon the pelvic organs unfit a patient for the marital life, and since two-thirds of all patients operated on for pelvic diseases are women who are or have been married, the decision as to the absolute necessity for any operative procedure is one requiring a very careful judgment.

So largely is the health of a woman affected by her emotions that any cause for unhappiness induced by the changed conditions of her life may seem to make her last state worse than the first. For these reasons it is my ardent hope that we may look in the future to the fuller development of the constructive processes of our art, the making of healthy women.

How rarely do we find in the special hospitals for the treatment of the diseases of women, any tolerance of the so-called palliative measures for the relief of the pelvic disease! Yet there is a time in the development of many of these when they are not beyond the pale of hope. There is no better vantage ground for a study of woman's needs than that afforded by such a hospital as that with which I have been connected for many years, the Woman's Hospital of Philadelphia, with its large obstetric and gynecologic service. Here opportunities for careful study may be obtained, the constitutions and habits of life of patients observed and such investigations made as to cause and effect in the production of disease as can not fail to bring much enlightenment.

In reviewing the records of the Woman's Hospital of Philadelphia, during the time of my incumbency as its physician in charge, from September, 1886 to September, 1896, I found that among nearly forty

thousand cases treated in its wards and dispensary over 41 per cent. were inflammatory disorders of the pelvic organs, mainly septic in origin, puerperal or gonorrheal; 27 per cent. were displacements with their attendant complications; 14 per cent. were functional disturbances, mainly due to constitutional causes and arrest of development; 7 per cent. were neoplasms and over 10 per cent. lacerations resulting from childbirth.

In making a study of the conditions which might be regarded as causative factors in the production of the graver forms of pelvic disease I analyzed 236 cases of major operations occurring in my own service. Forty-two being hysterectomies, twenty-one ovariotomies, twelve cases of extra-uterine gestation and the remainder chiefly cases of diseased appendages, including thirty-three cases of pyosalpinx.

In 40 per cent. of these the morbid condition seemed to be directly traceable to a puerperal origin; in 15 per cent. there was a hereditary predisposition to tuberculosis; in 12 per cent. a specific taint; in about 14 per cent. simple inflammatory conditions appeared to be the result of exposure or trauma; in 5 per cent. there was imperfect development of the pelvic organs; in 5 per cent. also, persistent uterine displacements; in another 5 per cent. anemia appears to have been the most prominent factor, and in 4 per cent. malignant disease. The facts connected with these figures are in themselves suggestive of the measures to be taken which might obviate much of the suffering. Hospital experience constantly goes to prove that the woman of modern times is inferior in physical resistance to the women of primitive times. This physical deterioration, although in part the result of the process of evolution by which nature decrees that like shall produce like and that the sins of the fathers shall be visited upon the children, is also the result of an unnatural environment and habits of life which threaten, if persisted in, to result in the extermination of the human race.

The especial manifestation of this inferiority in the growing girl consists in a condition of nerve and muscle atony which greatly weakens her powers of resistance. The pelvic maladies resulting from this condition are arrest of development, displacement and inflammatory involvement to which all weakened tissues are liable on slight cause. Necessarily these conditions tend to disorganize the menstrual life of the young girl and sow the seeds of future calamity. A condition of post-menstrual subinvolution is commonly found which is aggravated after each period of menstrual congestion and results in changes of structure in the tissues of the pelvic organs. The indications, therefore, are for a radical and rational treatment of these abnormal tendencies. I do not agree with the teaching that there should be little local treatment given such cases, nor have I found treatment properly carried out to be demoralizing. The relaxation of the vulvar and vaginal tissues induced by a catarrhal condition of the mucous membranes, as a rule, renders local treatment easy and painless. The use of cocain in any case renders it quite manageable.

Local treatment is only a temporary aid to the restoration of normal conditions. The most vigilant and pains-taking effort requires to be directed to improving the tonicity of the uterine supports as well as of the muscular system generally, improving the quality of the blood and combating any especial dyscrasia. The usual tendency to inactivity of the bowels, bladder and skin must be overcome. Before beginning any treatment I insist on such arrangement of the clothing as shall entirely remove all pressure from the chest and waist. This can be done perfectly well without rendering the clothing unsightly or unattractive and is absolutely necessary to the attainment of satisfactory results. In an article written some time ago by Dr. Kellogg on "The Relation of Modern Dress to the Pelvic Diseases of Women," he has admirably shown, by a series of experiments, the effect produced by constriction of the waist upon the mobility of the pelvic organs and on the tonicity of the abdominal muscles and uterine supports. The round ligaments he has demonstrated to be the chief agents concerned in the maintenance of the uterus in its proper position, their power being dependent on the muscular fibers which they contain. Any fixation of the pelvic organs tends in time to produce loss of contractile power in these uterine supports, and as a result we have displacement of the organ or the beginning of a series of ills. The clothing should always be worn sufficiently loose to enable the patient to exercise the abdominal muscles. The removing of all waist bands and the adjustment of the skirts in such a way that their weight is borne by the shoulders facilitates this purpose.

After the matter of clothing has received proper attention I teach the patient how to practice abdominal breathing and give her a series of exercises for strengthening and developing the abdominal muscles. The judicious use of the bicycle is a great aid to overcoming loss of nerve and muscle tone. Even when marked uterine displacement exists I do not prohibit this exercise, but only permit it while the uterus is maintained in proper position by means of tampons or a soft rubber pessary, the presence of which even in the case of falls would have little or no ill effect.

Should a marked catarrhal endometritis exist, it is sometimes well to precede all other treatment by a curettement of the uterus under proper precautions. Such treatment as the above, carried on for weeks and even months with the growing girl has, in my hands, proved fruitful of most excellent results, and has been of great advantage when persisted in even after this period.

The weight of the patient's trunk being borne by the saddle of the bicycle, she can take much more exercise with less exertion than she could if she attempted to walk. In older women, with relaxed vaginal outlet, I have found that I have gained much by teaching them how to introduce a sponge daily into the vagina in such a way as to lift the uterus into proper position. A soft silk sponge of proper size is selected and made into a tampon having a string fastened to it, by which it may be withdrawn. The patient is instructed to keep this over night in carbolized water, after having thoroughly washed it out after its withdrawal, with castile soap. Before its introduction, it is annointed with boroglycerid, and as it needs to be carried up in the pelvis to a point farther than the finger can reach, she is instructed how to use a thick glass rod, such as may be obtained at any drug store, to carry it well into the hollow of the sacrum and behind the cervix uteri. The knee-chest position facilitates its adjustment.

The same sponge is only permitted to be used two weeks, when a new one must be obtained. Patients unable to wear pessaries because of peri-uterine inflam-

mation or tender ovaries have found this treatment very acceptable. It is only permitted to be carried out under strict medical supervision.

Unhealthy conditions of the pelvic organs brought about previous to marriage illy fit a woman for child-bearing, and as a consequence, we find the following perversions of the normal phenomena associated with child-birth:

1. During pregnancy, a tendency to the early loss of the product of conception, owing to a diseased condition of the endometrium.

2. When this does not exist, a tendency to the prolongation of the period of gestation, the result of the atonic condition of the uterine tissues and of the abdominal walls, which thus more readily submit to overdistension.

During labor we find dystocia caused: 1. By physical exhaustion, the result of neuromuscular atony, which renders uterine contractions inefficient.

2. By the mechanical hindrances to the progress of labor produced by undue size and ossification of the fetal head, this being undoubtedly attributable in large part to the physical inactivity of women in civilized life during pregnancy.

During the lying-in period we have: 1. The lengthening of the time required for the process of involution, also frequent subinvolution. This condition of puerperal subinvolution, as does that of menstrual subinvolution, predisposes the uterus, upon the action of all causes of pelvic congestion, to take on structural change. A second perverted phenomenon of the lying-in is the imperfect performance of the function of lactation. A third is what may be termed a subinvolution of the abdominal muscles. The effect of this relaxation of the abdominal walls upon intra-abdominal pressure and its relation to prolapses and displacements of the pelvic organs is a matter of great importance.

All these conditions may be averted or modified by judicious treatment. Without dwelling unduly on the methods to be followed, I should like to mention the effect of bicycle riding as persisted in by two patients during their pregnancy. The one who had always suffered considerably from delay during labor, had the shortest and easiest delivery she had ever experienced and a more satisfactory convalescence. The other is still riding her wheel during the last month of gestation. Fearing she might injure herself by a fall I tried to dissuade her from doing so, but after a few weeks she begged me to allow her to resume the exercise, saying that it tired her so much less than walking and prevented her from getting melancholy. Both patients live in a suburban place and hence are not subjected to the accidents so common in crowded streets.

When a contraction of the pelvis complicates the condition of things in a patient of weakened muscular power I give especial attention to aiding the first stage of labor. In the maternity wards of the Woman's Hospital I found about 14 per cent. of the patients to have contracted pelves. Including among abnormal cases those of faulty inclination, the number reached fully 20 per cent. This is perhaps owing to the large proportion of foreigners delivered in our obstetric wards. The generally contracted pelves were found to almost double the number of simple flat pelves. The average contraction was not of a high grade. In the simple flat pelves the conjugata vera varied between 8 and 10 cm; in the generally contracted between 6½ and 10 cm.

The management, *par excellence*, of moderately contracted pelves is, to my mind, the induction of premature labor. The advantages of premature delivery to the mother are owing to the diminished head pressure; hence the rare occurrence of lesions of the genital canal. I have rarely found it necessary to induce labor before the thirty-sixth week. The aid of the *couveuse*, or hatching-cradle, is very appreciable in the management of premature infants in our maternity. The fetal mortality from all causes during the period covered by my investigations was 4.3 per cent. On the occurrence of uterine inertia during labor, when it could not be overcome by suitable tonics, artificial delivery was resorted to, the presenting part not being permitted to remain stationary at any one point long enough to endanger the maternal tissues by pressure.

During the lying-in, when the lochia rubra persisted for a longer period than was normal, I made an examination to discover the cause. Was there a tendency to uterine malposition, this was kept corrected. A possible hypertrophied condition of the endometrium treated by gauze packing or gentle curettage, which served also to stimulate uterine contractibility. Hot douches were employed and the patient kept in a reclining position longer than was usual. Difficulties with regard to lactation can largely be met by a judicious management of the patient, especially with reference to diet during pregnancy.

The methods just described have proved most satisfactory in our hands in the management of the obstetric work of the hospital. The maternal mortality was less than 1 per cent. About 19 per cent. of the cases required operative interference at full term. The operations included Cæsarean section, the Porro operation, symphysiotomy, forceps deliveries, versions, the management of breech deliveries, craniotomy, embryotomy and the induction of premature labor. I have found in my work that whenever I was able to reach a woman's understanding, getting her to co-operate with me in the measures intended for her relief, I have had little difficuly in carrying such measures into effect. I therefore believe that it is in the education of women to a proper appreciation of physiologic laws and of the virtue and dignity of true wifehood and motherhood as controlled by these laws, that we will find the most powerful factors in the work of reform which we hope may result in her physical restoration and in the production of a healthier generation of human beings as her offspring. At the close of a lecture given by myself recently on the subject of personal hygiene, to a large class of young ladies in one of our fashionable schools, I had a striking illustration of this. One young lady among several grouped around me said most earnestly: "Doctor, if you have been doing everything all wrong before the age of 20 is there any chance for you to be set right afterward?" I would close with a query addressed to the members of this Section of the AMERICAN MEDICAL ASSOCIATION: Do we as conservers of the health of women so influence the education of the young men and the young women of our day as to teach them how to live for healthy parentage.

DISCUSSION.

Dr. HOWARD A. KELLY of Baltimore said in regard to the contagious diseases, such as typhoid fever, diphtheria, etc., that we have learned a great deal in the way of prevention, and could readily prevent these diseases if matters were entrusted to physicians entirely, but politics entered here and our municipal authorities made scientific discoveries more or less

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futile in this country. In the matter that Dr. Fullerton had brought before the Section today, it was in the hands of physicians to mold very largely the future generation, to carry out those plans which we know will result in the prevention of disease, and in producing better women and a better race in the next decade. This subject had for a long time been prominently before his mind in connection with gynecologic work. It was a question which confronted him almost every day of his life. Prevention might be classed under two heads. In the first place, prevention which anticipated disease. In the second place, prevention which attacked disease in its earlier stages and prevented graver consequences, such as death, or the necessity of graver operations later. Under the head of anticipation he classed the treatment of the young girl, saying her education began with her mother or in the cradle. The education of our girls was in his opinion largely wrong. They were confined too much; they did not get sufficient exercise, and at the developmental period the abdominal corset came in. He has difficulty with his patients on account of wearing corsets. The corset prevents proper expansion of the chest, and in doing this it likewise prevents the proper development of the abdominal walls. Then, too, in the line of prevention he would urge on the profession at large painstaking attention to all symptoms. Physicians in general were too apt to pass over what seemed to be slight symptoms in women. Anything which did not cause a great deal of discomfort they readily overlooked, and sooner or later the woman came back, when the physician was forced to examine her. Discharges should be carefully investigated, notably excessive hemorrhage or lochial discharges, and if serious, treated. Pain, if persistent, should be investigated and a minute painstaking examination made under an anesthetic, if necessary. Another important means of prevention was cleanliness in caring for obstetric patients. The physician could not do better than to go to every case of obstetrics with a white suit on, not that the suit itself did anything in particular, but it impressed on the physician that the attitude toward the patient was different from that which he holds to any of his other work. Furthermore, it was of the utmost importance to observe greater caution in personal cleanliness, in scrubbing and cleaning the hands, etc., and in this connection the kind of scrubbing brush used in most clinics in Philadelphia and other cities was little better than a wash rag. Soft scrubbing brushes were worse than useless, and surgeons were deluded into the idea that they were doing something with nothing. With reference to gonorrhea, which is a frightful source of many ills, we needed better morals among men; we wanted the same rules for men as for women. Both should be treated on the same principle. When we give our sisters the same rights of license and indulgence that were given men we would have less ills to complain of and fewer diseases to treat in married women. An important preventive, then, of disease was morality.

Dr. WILLIAM A. FISHER of Philadelphia said that Dr. Fullerton's paper indicated that the gynecologist should be a good all-around practitioner. Disordered conditions of the pelvic organs did not always depend on diseased conditions of those organs, but in some cases on disordered conditions of the liver, of the blood, of the heart and so on, so that it was necessary to bear in mind as regards the future dependence of organs the fact that in woman the pelvic organs dominate her whole being. We should consider in the study of symptoms connected with the pelvic organs the temperament of the patient, whether or not she is of the lymphatic, nervous or plethoric type. All these had an important bearing on symptoms in pelvic troubles. One woman with a slight retrodisplacement of the uterus might suffer excruciating pain, while another with a decided retrodisplacement would suffer but little, simply because of the difference in the nervous organization of the two women. Exercise is very important in the treatment of disordered pelvic conditions. By judicious exercise we cause an increased amount of blood to the surface and body and relieve congestion of internal organs. The circulation in the pelvis is largely carried on by respiration and inspiration, and during the act of each respiration and inspiration we have a rise and fall of the pelvic diaphragm and with it maintenance of the pelvic structure. In order to keep up proper pelvic circulation it is necessary for women to have their clothes loose about their waists. Furthermore, in so far as the uterus is concerned, we know that women are unwell about one-fifth of the time and they do not take extreme care of themselves at this particular time. I refer to the time of menstruation. They expose themselves to cold and damp. This brings about chilling of the surface and internal congestion, and at the time of menstruation may give rise to dysmenorrhea, and this frequently repeated may result in the production of pelvic disease. The skin, as a very important excretory organ, is often forgotten by practitioners in general. The skin in its active condition throws off excrementitious products, and when it is in an inactive condition we have the accumulation of toxic materials that should be thrown off by it. If there is pelvic disease existing or a tendency to it we may have a localized expression of this want of activity of the skin in certain conditions of the pelvic organs, etc.

Dr. MILO B. WARD of Kansas City, Mo.—I would like to ask Dr. Fullerton the effect of bicycling on girls.

Dr. FULLERTON—Unless there is considerable pelvic disease I consider bicycling a great aid to the development of the muscular structures of girls.

Dr. WARD—How do you account for the fact that women who ride bicycles can not walk; that is, they are too weak to walk?

Dr. FULLERTON—I do not think this would obtain after they have used the bicycle for some time. There is really less fatigue from using the bicycle than in active walking. After the muscular system has been developed, I believe a woman who learns to ride a bicycle can walk farther than her sister who does not ride a wheel.

Dr. A. H. TUTTLE—I would like to ask Dr. Fullerton if she prescribes any regulation dress for young ladies who use a bicycle?

Dr. FULLERTON—Always. I do not permit them to ride a bicycle with a corset.

Dr. A. E. MILLER of Boston—I would ask Dr. Fullerton if she has ever met any bladder difficulties arising from bicycle riding, as for instance, irritable bladder?

Dr. FULLERTON—Only in those cases where the women have not selected and adopted a proper saddle. If they use an improper saddle it will cause discomfort in more than one way. If proper attention is given to the performance of the functions, to evacuation of the bladder and bowels, to dress, etc., I do not believe any injury can result from bicycle riding.

THE INJURIES OF PARTURITION, THE TIME, METHOD AND REASONS FOR THEIR REPAIR.

Presented to the Section on Obstetrics and Diseases of Women, at the Forty-eighth Annual Meeting of the American Medical Association at Philadelphia, Pa., June 1-4, 1897.

BY A. H. TUTTLE, M.D., S.B.

CAMBRIDGE, MASS.

In May, 1893, I was called to Milford by Dr. Wm. J. Clarke, to repair a complete rupture of the perineum, which occurred in the practice of a neighboring physician one week before. I found the levator ani and both sphincters torn, with liquid feces coming from the rectum, while pus flowed from the wound. The condition was such as seemed to render primary union impossible, but by means of washing, scraping refreshing and defining the ragged edges of the skin and mucous membrane and bringing the denuded surfaces into close apposition with buried sutures, the result was perfect with first intention throughout. The long delay after the accident, combined with the condition of the wound and the subsequent perfect result of the treatment, brought up a line of thought which I have since pursued with advantage in the primary repair of the injuries of parturition.

The immediate repair of the perineum has been laid down imperatively as the best procedure, and at present is the practice of competent physicians; in fact its neglect is considered almost criminal. But no one knows better than the operating surgeon and gynecologist the incompetency of the average obstetrician to make a satisfactory repair of the injuries peculiar to parturition, except where they are of minor degree. Their imperfect results are perhaps due to the indifference for careful technical work, often arising from a tendency to make light of an injury that they assume may cast a reflection on their ability as an obstetrician. The patient is rarely moved from her bed; the

parts often only seen by bad light or not at all; disinfection is imperfectly carried out, and the work is faulty; that is, the edges of the skin may be brought carefully into apposition, but no attention whatever is paid to the mucous membrane, the various muscular structures, or the more deeply situated and perhaps most important injuries of the case.

In my opinion a primary repair of the parts requires greater skill and better surgical technique than a secondary operation. If the injuries are extensive, it is worse to do an imperfect operation than to leave the case alone, as it opens up the road for severe infection.

It is not common practice to make an inspection of the cervix until ready to discharge the patient, and primary repair of its injury, although it has been advocated and executed for several years by J. Price of Philadelphia, is not the usual custom.

If a deep cervical tear is not repaired it is a cause of infection, and a common means of subinvolution of the uterus with subsequent displacement and catarrhal inflammation.

With neglect of the cervix comes also an indifference for the treatment of deep vaginal tears, and in the majority of cases they are entirely overlooked.

Unless one is in the habit of examining the tears of parturition carefully, they can little realize their extent and the possible dangers they afford. The pelvic cellular tissue and the region of the broad ligaments are exposed to external infection in two direct ways, both of which are common. One is by a deep tear of the cervix passing beyond the cervicovaginal junction; the other is by a tear of the vagina which extends from a point in the roof or side and runs parallel with the urethra close to the neck of the bladder, to terminate internally near the cervix. These tears are often bilateral, with one side a little greater than the other. I have seen this particular vaginal tear so extensive that it reached the outside of the vagina, where it ended in the prepuce of the clitoris, thus running the full length of the vagina. If an inspection is not made in a proper manner this injury is entirely overlooked, and unless a careful repair is made the wound heals by secondary intention. This injury I believe is one of the most frequent causes of a form of pelvic inflammation represented clinically or by comparatively simple phenomena, but which becomes a source of great after-trouble owing to the adhesions about the ovaries and a tendency to anchor the uterus in an immovable manner and in an unnatural position. In a number of ovariotomies I have found the adhesions so great as to make the removal of the ovaries extremely difficult, yet there was absolutely no sign of tubal disease, and I have been at a loss to account for their development. In most of these cases there was a history of difficult labor and generally the use of forceps. After careful examination of many of these deep tears, through which I have passed my finger into the pelvic cellular tissue as far as the peritoneal covering, I feel that these tears offer the most rational explanation for the adhesion so common about the pelvic organs. The adhesions of the uterus in the vagina so frequently found during the repair of the cervix where the organ is placed high, can not be drawn down to the outlet but is firmly fixed to one side with a mass of hard scar tissue, are formed from the improper or neglected treatment of these tears. The form of puerperal septicemia which arises from these tears should be carefully distinguished and the fact recognized that the infection in the peritoneal space is direct and not by the way of or involving the uterus.

The perineal tears usually extend upward through the vaginal membrane that lines the lateral sulci, are rarely medial, owing to the thickness of the membrane in this region (the posterior vaginal column), and if the tear is bilateral, the corrugated membrane or raphe is raised in the form of a thick flap with the base *upward*. The tear along the lateral sulcus often reaches to a great depth. Emmet has described a tear where this posterior column is torn across in a deeper situation near the cervix and the lateral tears arising from within and extending outward, make a flap of the floor tissues with the base *downward* near the outlet. This flap curls up and heals in the form of a crumpled mass, which from its situation gives the appearance of a rectocele. I have seen but one example of this tear and believe it must be a rare accident.

Besides the tears in the vault already mentioned, are those which involve the bladder and urethra. They are very infrequent. The accidents of this sort, which in times past came from pressure necrosis, are now very rarely seen owing to the timely use of forceps. I believe that most of the cases of vesicovaginal and vesico-urethral fistulæ occurring at the present time are the results of forceps extraction of an occipitoposterior presenting head or breach, although my experience in these cases has been very limited. The perineum is usually well torn, and there is a median tear of the vagina above involving the deeper organs, which has a clean appearance as if cut by a blade of the forceps. The involuntary and constant flow of urine with every change in position very soon attracts the attention of the patient to the accident, and the physician is informed of it without any great delay.

The skin tear of the perineum is more or less straight, sharply defined and regular, extending in severe cases from the fourchette or hymenial ring to the mucous membrane of the rectum.

The rectal tears are rarely deep. Both sphincters are at times torn, and in all important lacerations the levator ani is injured. Frequently the sphincters are partly torn from their sheath and appear as a nipple-like projection half an inch in diameter and about an inch in length. There is a temptation to cut off this protrusion of muscle at the time of repair, but I think it unwise; it should be restored intact.

Beside the above tears, which I believe constitutes all that are of any magnitude, there are often innumerable smaller ones like a crack in the tissue, short and superficial, and rarely severe enough to require special attention.

From a practical experience with all the injuries of parturition above briefly described, I believe that I am justified in making the statement, that it is absolutely wrong for the obstetrician to attempt to repair the injuries of a severe labor, where the lacerations are extensive, without competent assistance and the proper means at hand as regards instruments, disinfection, etc.; or to do the work in an incomplete manner by simply sewing the muscles and outside skin together so as to give a fair temporary appearance exteriorly, which is foul within.

As I know from experience, that the parts can be satisfactorily treated within several days from the time of the accident, then the question of time is no excuse for indifferent treatment, nor the fact that the attending physician is worn out by an exhausting

labor and perhaps very nervous about the issue. The fact that a primary repair will prevent a great many conditions which later require operative treatment, often of a capital magnitude, is sufficient reason why one should treat the case carefully from the beginning. The mere fact of a difficult labor condemns the patient to a period of lying-in, which is equivalent at least to the period of repair, and is a period which, in the lifetime of many women, is the most opportune for the treatment of her trouble. It is a positive fact that in many cases the period of convalescence would be greatly shortened by complete primary repair. In consideration of the above facts, I will propose the following deviations from the established custom, as giving a most satisfactory result immediately and as a preventive measure for many of the pelvic troubles of women.

When the injuries of a labor consists of more than a simple tear that does not involve the sphincters, the placenta and blood clots should be expressed from the uterus; a full dose of ergot administered; a pad rung out of bichlorid solution applied to the perineum; and then the patient should be given time for rest, unless it so happens that every measure for a repair of the parts has been previously arranged, competent assistance is at hand, and the patient is already under the influence of an anesthetic that was administered during her delivery. If it is a simple tear, a few stitches taken immediately is all that is necessary.

The duration of time that the surgical repair should be delayed will depend upon the different circumstances peculiar to each case. At least one hour should be given for the rest of the patient, and for the reason that by this time the full effect of the ergot will be realized, which may be of some use in counteracting any tendency of the anesthetic to relax the uterus. If the injuries have occurred at night, it will be better to wait until the next day, when there will be good light to work in, and if the obstetrician is incompetent to cope with the case, or his patient is far removed from help as in the country, it may be necessary to wait longer until the proper assistance is procured. I have been unable to discover any special advantage in the time of operating within the first ten hours after the injury. The retraction of the uterus is greater at the tenth hour than at the end of the first, but a little more care is requisite in refreshening the parts. The repair of the cervix is easier at the end of ten hours.

The preliminaries for the operation should be made in a careful manner; antiseptic solutions should be prepared for sterilizing the wound, the hands of the operator and his assistants, and an irrigator should be filled with the same; the instruments should be sterilized; a table covered with clean linen should be arranged where there is a good light for operating; a smaller table for instruments should be placed near it; a Kelly pad, or similar contrivance, with a pail for catching the irrigation, should be set in their proper places, and means for supporting the legs with the patient in a dorsal position should be at hand. For the repair of the multiple injuries of parturition I am in the habit of using animal sutures entirely, kangaroo tendon and fine catgut. This should be perfectly aseptic.

The etherized patient is placed upon the table so that the parts are exposed to good light and the legs are well supported. The hair about the parts is shaved off and the skin and vagina are carefully cleansed with soap and water, and finally with a solution of bichlorid. The rectum is dilated and also cleansed in a like manner. Clots of blood, which are usually present in the uterus, should be removed. The parts can now be satisfactorily examined and the exact nature of the injuries determined. The fingers are usually efficient retractors, but metallic ones can sometimes be substituted to advantage. With pressure of the hand of an assistant on the fundus of the uterus the cervix can be readily exposed and the tears, which are usually bilateral, extending toward the region of the broad ligament are easily recognized. They are repaired by closure with an over and over, or an interrupted suture, after scraping the raw surface with a sharp curette to insure union. The suture is exposed on the outside of the cervix but not in the canal, as it is passed just below the mucous membrane. With the closure of each stitch the blood should be carefully washed away with the irrigator and the corresponding parts adjusted with the help of dissecting forceps. In holding the cervix during repair I have found Pratt's rectal forceps of much help.

In closing the vaginal tears there is a simple rule to be carried out: viz., carefully bring together the torn edges of the mucous membrane and muscles that correspond to each other and unite them with sutures firmly and in close apposition, so that the raw surfaces are in contiguity and their exposure along the line of tear reduced to a minimum. This is the principle of the treatment in the case of a simple incised skin wound. The deep tears through the vault can be closed with an over and over stitch taken with a fine ligature, but all the remaining repairs can be easily manipulated and are best treated with buried sutures. If the repair is not immediate the raw surfaces should be scraped clean with the edge of a scalpel or sharp curette. A suture is taken in the tears of the mucous membrane that extend up the lateral sulci, beginning at the deepest point. There is no muscle to be united in this region as many suppose. If the tear is double then use one suture for each tear, which closes the vagina in the shape of a letter W. These sutures are not drawn tight until the other parts are united, because there would be less room for manipulation. The rectal tear is now closed in a similar manner, using very fine tendon and needle, the suture passing only through the muscular coat of the gut. The first suture is taken at the internal angle of the wound and should be placed sufficiently deep that no opening will be left which would admit a leakage of the contents of the bowel into the perineal wound. This line of suturing is carried to a point just above the junction of the skin with the mucous membrane of the rectum, and is fastened so that it is entirely disconnected from the other lines of suturing. By having each line of sutures entirely separate from the other, should infection occur in the region of one it will not necessarily be transmitted to that of another. The deeper layers of the torn levator group of muscles and the transverse perinei are now brought into apposition with a figure of 8 suture and the internal, and later the external sphincters are repaired by simple suturing. As the value of the perineum depends on the perfect condition of these muscles great care should be exercised to bring the torn edges back to their normal position so as to make a good fibrous union. All of the deep sutures having now been placed, the ends of those that close the tears in the mucous membrane which were left unfastened, are

seized and carefully drawn tight. Thus the wound is closed from infection by way of the vagina. If the ends of these sutures are brought out at the upper and outer angles of the tear, in the region of the caruncles then by tying the two ends together the closure of the wound, at the most dangerous point for gaping, is completed in a most thorough manner and at the same time the sutures are fastened. This applies of course to a bilateral tear. There is nothing now left to be done but an apposition of the remaining outer torn portion of the levator ani and transverse perinei and the union of the skin wound, which is easily performed with two or more layers of buried sutures.

If there has been a tear in the neck of the bladder or urethra, the opening in the mucous membrane of these organs should be closed with a fine buried suture of kangaroo tendon passed by the help of a sound in the urethra and bladder, and with great care that no part of the suture extends out upon the mucous surface. The loose submembranous connective tissue can be gathered up with a line of sutures over the first layer to reinforce the wound from leakage. The vaginal tear is now closed in the manner already described. The repair of the bladder and urethra should be done immediately after that of the cervix while there is yet plenty of room to work in.

After the injuries are all repaired the urine is drawn, parts irrigated and a protective suture is passed just above the lower angle of the vaginal introitus through the labia of either side. The two ends of the suture are tied together, bringing the surfaces of both labia into close juxtaposition above the seat of injury. By thus pinching the two lips together the top of the perineal wound is greatly protected from the secretions in the vagina, which can not flow over the line of repair, but must rise higher to pass over the protective suture; and in case the nurse is obliged to catheterize, should she depress the inserted instrument, it would be prevented by the double strand of the ligature from bearing down upon and prying open the top of the perineal wound, one of the weakest points in the repair. This suture can be removed in two or three days and has nothing to do directly with the closure of the perineal injury. In bladder and urethral injuries a catheter should be passed and fastened *in situ*. It is kept here for three or four days.

Results.—If the case is done in a skilful manner, healing will occur by first intention throughout and there will be no constitutional disturbance of the patient except a slight fever of reaction, which is rarely greater than 100 degrees F. It may be criticised that a technical error would lead to a severe infection with great sloughing and danger where so much buried material is used. I must say that the worse sloughing of the perineum that I have ever seen was in the practice of a physician who closed the wound with external sutures, the infection coming by way of the vagina. In my own experience I have had but one complete failure and, recognizing it was inevitable by the fourth day, I again etherized the patient, opened up the wound, cleansed it thoroughly and reunited the parts as before. The case healed after the second operation with primary union. In a number of cases where the work was performed under trying conditions, a small abscess formed in the center of the perineum. This forced an opening and discharged spontaneously, sometimes into the vagina, and at other times through the skin. These cases have all healed kindly leaving a satisfactory perineum without complications, but the convalescence was slower. The technique must have been faulty in these cases. My worst cases, including vesical and urethral fistulæ, have all healed by primary union, probably because the greatest care was taken to obtain an aseptic operation. I have never had a failure in the union of the sphincters.

In my earlier operations on the cervix I practiced the introduction of some foreign body into the uterus for the purpose of draining that organ and in cases of secondary repair where there was extensive removal of tissue to help establish a patent canal. I found the custom an evil one in cases where there was simultaneous repair of a complete perineal location. The cervix in its natural position rests against and is supporting the rectal wall of the vagina, usually an inch and a half to two inches above the introitus. The pressure is received upon the posterior column or raphe, which from peculiar construction is well fitted for the purpose. When the parts are repaired the cavity of the vagina is closely occupied, and any foreign body tends to disturb the natural relation, which in a case of uterine drain produces pressure upon the lateral sulci, where the mucous membrane is very weak and the partition between the lumens of the vagina and rectum thin. In deep tears, a foreign body in the vagina will tend to open the internal ends of the wounds of the rectum and vagina behind the sphincters, making a vaginorectal fistula. This has twice occurred in my practice. In these cases I removed the drain early, as soon as I discovered the accident, kept the vagina clear by douches, and the fistula closed spontaneously. Since giving up this mode of draining I have had no further trouble.

Conclusions.—In my opinion, the obstetrician who today boasts that in his practice he has no lacerations of the cervix or perineum, proclaims to the world his ignorance of this branch of his profession. It is as much the duty of the obstetrician to his patient to see that she is properly repaired, as to see her safely delivered. The public should be educated to the fact that injuries to the soft parts of the parturient canal are often inevitable, and that such injuries only cast a reflection on her professional attendant when their after-treatment is neglected. The physician in whose practice a severe laceration of the parturient canal has occurred, can protect himself in no better way from a legal attack on alleged malpractice, than by calling in assistants, who serve as witnesses, within twenty-four hours of the time of the accident, and repairing properly, or offering to, the injuries which his patient has sustained. There is no better time to repair the injuries of parturition than within twenty-four hours of the time of their occurrence; such immediate repair of the injuries will often hasten convalescence and prevent in many cases, severe pelvic complications. The obstetrician should be educated to do this part of his work in a more careful and thorough manner. The injuries already sustained by a multipara in previous labors should be an incentive, rather than an objection, for the careful treatment of the lacerations of her present delivery, because a repair of her total injuries can be accomplished at the same time.

An early symptom of carcinoma of the esophagus is afforded by decreased flexibility of one of the vocal cords. An instructive instance is related in the *Deutsche Med. Wochenschrift* of November 4.

REMARKS ON THE RELATION OF THE UTERUS TO DESCENT OF THE PELVIC FLOOR, AND TO GENITAL PROLAPSE.

Presented to the Section on Obstetrics and Diseases of Women at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

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As the title implies, it is not intended here to formally cover the field of genital prolapse but to remark upon one phase of it, and to emphasize the fact that the uterus is not the sole offender, but that, in greater or less degree, all the other pelvic organs and tissues are involved to such an extent in some cases that even after the uterus is completely restored to its position, the prolapse of vagina, rectum, bladder and tissues of the pelvic floor continues.

There seems to be, in the minds of some, an idea that the uterus descends alone through a normal tube, the vagina, because of some relaxation of suspending supports above. This idea leads to attempts to cure prolapse by shortening round ligaments alone, by fixation (literal) of the uterus alone to the abdominal wall, or even to the performance of hysterectomy followed by fastening the cervical stump to higher pelvic tissues, while the relaxation, sliding and stretching which have occurred in the pelvic diaphragm are left untreated. Ultimate failure to cure must be the result of this policy. The truth is that in varying degree in different cases, the uterine prolapse is only a part of a vast hernia through the inferior pelvic strait of the pelvis; that in this hernia are involved bladder, rectum, peritoneal pouches in front and behind the uterus, with or without bowel contents; also the muscles and fasciæ of the pelvic floor. All of these structures do not descend to equal degree, but there is a gradual sliding in different planes. The uterus is often forced furthest down by intra-abdominal pressure and gravity, the posterior bladder wall less so, the anterior bladder wall still less so, and so on with each succeeding plane of connective tissue until the bony pelvis is reached. By thrusting up the uterus, this whole prolapsed mass may be made to telescope back, partly into position, but not wholly. No operation can be permanently successful which aims to deal with the uterus alone and does not take into account the sliding planes of stretched tissue and the telescoping movements when the cervix is thrust up or down.

This is best illustrated by the following case, which shows that the uterus may be even higher than its normal place in the pelvis and yet the bladder and much of the vagina be outside the vulva.

Mrs. X., a young and healthy multipara, was referred to me for operation by her physician because her "womb came out," giving rise to chafing and various discomforts. He had made no careful examination, but saw simply a large pinkish mass, the size of the fist, protruding from the vulva, and sent her to me without further investigation. Upon examination I found, indeed, a large genital prolapse outside the vulva, larger than the fist, but it was made up of anterior vaginal wall and bladder in front, and rectocele behind. The uterus so far from being an element in the case was, to the surprise of patient and physician, found to be pregnant six months. It was within the abdominal cavity, having risen normally above the superior strait. The cervix was normal in size and high up. Here was a case in which Nature by pregnancy had restored the uterus temporarily to its normal positionin the body without dragging up enough of the other elements of the genital hernia to attract the patient's attention. In fact, the prolapse continued. A hundred diagrams or theories could not better demonstrate the position that any effort to cure this woman by any operation for suspending or removing the uterus would be futile unless something were also done to the pelvic floor. The case aborted shortly afterward and is now awaiting operation. What shall this be? First a serious attempt from below to restore, not the perineum but the integrity of the pelvic floor, of the whole pelvic diaphragm. By operating within the vagina, to endeavor to reach with stitches and take up the higher and deeper planes of pelvic fascia and muscle. When the uterus is large and the cervix long or hypertrophied, amputation of the cervix from below is a great help as it is preceded by dissecting off the vagina from the cervix, while the method of sewing shortens materially the vagina and implants it higher upon the uterus, virtually at the same time taking a reef in utero-sacral attachments. In addition I believe that uterine suspesion should usually be done, or in very rare cases of enlarged uterus, hysterectomy, but the main effort must be concentrated upon the vagina.

It is of interest, in passing, to note the curious tolerance of this patient to septic influences, no doubt owing to long protrusion of the uterus from the body. She aborted, as has been said, at six months. Her physician found, a few days later, to his horror, that finding herself unable to pass her urine owing to protrusion of the bladder she would take her hands and push everything within the vulva, when the husband with unwashed hands would catheterize her with an instrument wnich he had bought for that purpose. No harm resulted!

THE INFLUENCE OF OUR SCHOOL SYSTEM ON THE HEALTH AND DEVELOPMENT OF THE CHILD.

Presented to the Section on Diseases of Children, at the Forty-eighth Annual Meeting of the American Medical Association, held at Philadelphia, Pa., June 1-4, 1897.

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(*Concluded from page 1252.*)

Answers to No. 6.—To most persons it may seem that such a question as this is entirely superfluous; that the dictates of humanity and common sense would make such a practice an impossibility. From my personal experience as a member of a school board and as a practicing physician however, I am sorry to say that the practice is more prevalent than I would have believed it to be without a thorough investigation of the subject. Indeed, I am satisfied that even superintendents and principals of schools do not fully appreciate how frequently teachers err in this matter. This can probably be explained, in part at least, by the fact that it is a delicate subject, about which parents do not like to make complaint, and which does not receive the attention and discussion in teachers' meetings that its importance demands. Whatever may be the cause of the practice it certainly exists to a

greater or less extent and exerts a most baleful influence, both morally and physically, on the pupils subjected to it.

If teachers would take the golden rule or Charles Reade's title, "Put Yourself in His Place," for a text and then imagine how they would feel under similar circumstances, in a company of fifty of their fellow teachers, they would be able to appreciate the humiliation and moral degradation caused by such a restriction, and understand the resentment and disregard of authority which the practice produces.

As every one should know, the disregard or failure to attend to nature's calls promptly is the source of many physical ills and may be the cause of lifelong disease and misery. In the first place it may produce chronic constipation, which, as every physician knows, is a regular Pandora's box of evils and may lead to the gravest consequences. The toxins produced by the retained fecal matters are absorbed into the circulation and penetrate to the most remote cells of the body; they poison the blood, poison the brain, lower the vitality of the body and weaken the mind. This poisoning causes headaches, neuralgias, lassitude and malaise, which make work a drudgery and life a burden. It is even asserted by Dana (*vide* JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Jan. 9, 1897, p. 62) "that organic changes in the central nervous system are doubtless due to the absorption of toxic substances produced by microbic processes in the alimentary canal." By clogging the system with effete matters digestion is impaired, nutrition rendered imperfect, and growth and development retarded. The strain on the bladder caused by efforts at retention may lead to paresis, incontinence of urine and chronic inflammatory conditions of the bladder and the irritation and congestion thus produced may cause irritation of the sexual organs and lead to secret vices, thereby not only wrecking the child physically, but morally.

Answers to this question were received from about one hundred respondents. While many could give no definite opinion as to the existence or prevalence of the practice, and many state that they do not believe it to exist, or if at all to a very limited extent, still a large number assert that it does exist, and nearly all are very emphatic in their opinion as to the moral and physical evils resulting from the practice. The following answers indicate some of the views expressed:

Prof. J. J. Allison, A.B., of Boise City, Idaho: Extensively, I think.

Prof. Joseph Baldwin, LL.D., of Austin, Texas: Practically general. Pupils should visit closet at will. Asking is one of the relics of a cruel barbarism.

Prof. J. E. Brate, A.B., of Fostoria, Ohio: Possibly in the majority of schools. *a.* Hurtful, as it leads him to disrespect authority. *b.* Disease of organs involved, constipation, urinary troubles, etc.

Prof. Fred. Dick, A.M., of Denver: To too great an extent. *a.* Causes disobedience and frequent loss of self-respect. *b.* Sexual weakness, etc.

Hon. A. L. Emigh of Denver: It is pernicious.

Prof. C. C. Emigh, of Fort Collins, Colo.: I can not say, but it exists and is dangerous to moral and physical health. *a.* Engenders anger, deceit and malice, poisoning the mind and soul of the child.

President Chas. W. Eliot, LL.D., of Cambridge, Mass.: I think such barbarous practices are not common. Frequent recesses obviate almost entirely necessary withdrawals from the school-room between recesses. *a.* The child experiences a sense of injustice.

Supt. J. M. Greenwood, A.M., Kansas City, Mo.: Does not exist in any form here. Children can not be turned out to the water-closets like ponies to a watering trough. *a.* Very injudicious, as well as injurious. *b.* Intestinal and urinary diseases.

Joseph W. Mauck, LL.D., of Vermilion, S. D.: If such a monstrous practice is in vogue I am happily ignorant of it. *a.* It would justly beget a contempt for authority. By creating disorder of the physical organs. I should fear it would lead to carnal vices. *b.* General derangement of the system, with special seats of disease in the weakened points of the body. Who can anticipate what ills may not be developed?

Prof. E. B. McElroy, Ph.D., of Eugene, Oregon: In my opinion, there is an oversight in this important particular in 20 per cent. of our schools and I fear there is more of this vicious and ignorant practice on the part of teachers than superintendents and supervisors are led to suppose. *a.* The moral effect is always bad; no exception to this.

Prof. Wm. H. Smiley of Denver: Not at all to my knowledge; a teacher who should do such a thing would deserve instant discharge. *a.* It would certainly encourage lying and deception.

President Irwin Shepard, A.M., Ph.D., Winona, Minn.: I do not know of its existence. I would instantly discharge a teacher guilty of such barbarity.

S. Henry Dessau, M.D., of New York City: I do not know positively, but it does exist. *a.* Bad in every sense. *b.* Constipation and subsequent secondary digestive disturbances and enuresis.

Prof. C. H. Hughes, M.D., of St. Louis: To far too great an extent. Pupils should not be subjected to the ignorance or caprice of teachers in this matter. *a.* Children are often compelled to soil themselves with urinary discharges and are unfit to study when depressed by reflex irritation from bladder and rectum. *b.* Distension of bladder; damage to nervous system; constipation habit; incapacity to study well.

Prof. Thad. A. Reamy, M.D., LL.D., of Cincinnati: Don't know; have never known teachers to presume this way. It would be awful to do so. *a.* Very bad. *b.* Disease of bladder, kidneys, and serious nervous troubles would ensue. Digestion and nutrition would be interfered with.

W. H. Short, M.D., of La Grange, Ind.: It exists to quite an extent here. *a.* Humiliates, causes lack of self-respect, habits of uncleanliness, loss of respect for teacher; many effects which might be traced to this as a primary cause. *b.* Incontinence of urine, irritation of bladder, constipation. Children under such circumstances can not think well, and attempts to study lead to bad mental habits. They are apt to have reflex troubles of various kinds. Many mothers attribute colds or catarrhal ailments to child thus deprived of such privilege, owing to chills caused by damp clothing.

Henry Ling Taylor, M.D., of New York: *b.* Constipation and attendant evils, dyspepsia, anemia, piles, incontinence of urine, nervousness, interference with general health.

Prof. James T. Whittaker, M.D., LL.D., of Cincinnati: I do not know. All calls of nature should be attended to at once, "nor pause, though e'en the king passed by that way."

Prof. Augustus P. Clarke, A.M., M.D., of Cambridge, Mass.: To a considerable extent and much more than is realized by our public benefactors. *a.* It depresses or weakens the moral sense of the child and

serves to implant in him doubts as to the teacher's ability to instruct him aright. *b.* Constipation, headache, eye strain, and in girls anemia, neurasthenia, chlorosis, cystitis and, in some cases, perversions of the sexual system as in amenorrhea, dysmenorrhea and their sequelæ.

Prof. Leonard Freeman, B.S., M.D., of Denver: I do not know. It should not exist at all unless real deception be exposed. *a.* May lead to masturbation through irritation of the neck of the bladder by accumulated urine. *b.* Irritation of the prostatic urethra with coincident nervous phenomena.

Pres. Alfred Holbrook of Lebanon, Ohio: I do not know that any teacher is so unreasonable anywhere. Hourly recesses make restraints unnecessary. *a.* Being entirely unreasonable, it makes all restrictions seem unreasonable and unjust.

Elizabeth K. Matthews of Des Moines, Iowa: Am sorry to say it, but it exists to a very great extent.

Prof. J. A. Larrabee, M.D., of Louisville, Ky.: Does not exist to any extent in our schools. Personal and private hygiene concerns the home training and teachers so instruct our pupils. *a.* Neglect of personal hygiene, either in the schoolroom or at home, is equally deleterious to the moral status of the child. When necessity demands, a modest signal should be given. *b.* The physical effect of delayed defecation or urination concerns all the functions of the body and results in imperfect cerebration, hemorrhoids and, in females, in retroversion of the uterus and chronic indigestion in both sexes.

Answers to No. 7.—This is a very important question and one about which there is a great diversity of opinion. There can be no doubt but that if children could have plenty of outdoor exercise in pure air, surrounded by moral safeguards, and the time now devoted to entertainments, parties and other social dissipations were largely spent in sleep or devoted to healthful recreation or a judiciously selected course of general reading, children would enjoy better health and be better off in every way.

Whether home study will be beneficial or hurtful to a child depends much on the surrounding conditions and the motives or incentives which prompt it. If done through enthusiasm or a love of truth for truth's sake, the results will likely be beneficial; if, on the other hand, the child is impelled to study by the slave-driver's lash or threats of failure and disgrace, the effects will in all probability be injurious. Unfortunately, under our cramming, high pressure methods of education, with its frequent examinations and grand stand plays for public show and approval, truth is lost sight of and children are spurred on and incited to cram, memorize and fill themselves up for examinations and public exhibitions regardless of the permanent effects of such a course. This sort of work keeps the child in a constant state of excitement, worry and anxiety; the brain is irritated, the vitality lowered, the mind weakened and the importance of truth and honesty lost sight of. Under such a system even the brightest and best pupils will lie awake nights and worry over their grades, their examinations and their promotions, when never a thought or care on such matters should disturb them. Nor is this confined to the higher grades of the schools, but also applies to many pupils in the primary grades.

The period of puberty is one of rapid development and growth and makes great demands on the strength and vitality of the child, who as a consequence should be very carefully protected against undue excitement or anything that will divert the vital forces from the great work which they have to perform.

Dr. Miller (*vide Cincinnati Lancet-Clinic*, Feb. 6, 1897, p. 159), very clearly depicts the condition of the child as follows: "The child fatigues much more readily, that is, his organism is much more quickly depleted and poisoned during the periods of most rapid growth. The average boy has the most rapid growth between the ages of 14 and 16. In these two years he increases in weight by as much as he did during the entire six years preceding the age of 14. At this period of most rapid growth, the period of pubescence, the brain loses considerable weight because of the fact that the usual blood supply is lessened by a portion being withdrawn to nourish the viscera and other organs undergoing revolutional changes during this period. While the weight of the brain is only one forty-fifth of that of the whole body, it requires one-eighth of all the blood to nourish it. At no time in his whole school career is the boy so deserving of sympathy as at the time of most rapid growth. In all learning, two great features are involved; proper presentation of material by the teacher and proper attitude of mind on the part of the pupil. Seldom, if ever, can the latter condition be supplied by the boy or girl in the midst of the physical and mental revolutions and evolutions of pubescence. The great curse of the age is the demand for rapid education. Parents and teachers crowd the children through a long year's work. Health is sacrificed for promotion. What is learned while the child is fatigued is soon lost, the mind's force being equally dissipated. Vital force is required faster than it is generated. The work of today is done on tomorrow's credit and the system of a child is wholly at a loss to protect itself against disease and accident."

Reuben Peterson, M.D., of Grand Rapids, Mich. (*vide* JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Dec. 19, 1896, p. 1269) writes as follows: "The growing girl who should spend most of the time in the open air with never a care in the world, is closely confined in a schoolroom the air of which is so vitiated as to be scarcely capable of supporting life. Here she may be found, ambitious to excel in her studies, poring over her books with back bowed and chest contracted. If the remainder of her time were spent in recreation the evil effects of overcrowded schoolrooms might be counteracted, but such is not the case. The parents are ambitious that their daughter shall take high rank in her studies, and that accomplishments such as music and painting be acquired at an early age. Hence the girl is urged to still greater mental efforts. Thus the nervous force so needful at puberty for the establishment of the menstrual function is wasted in the acquisition of what may be considered trifles compared with perfect health. He (the family physician) should demand that the hours of recreation in the open air should be lengthened and the school duties be lightened."

Fifty-three educators and thirty-four physicians answered this question more or less fully. While there is a wide divergence of opinion from absolute condemnation to warm approval of the practice, still all insist that the work should be carefully guarded and not carried to extremes and that the health should be properly cared for at the same time. When these conditions are fulfilled and the pernicious habit of attending parties, keeping late hours and indulging in

the various social dissipations and excitements which are so prevalent and injurious, is done away with, the majority believe that a moderate amount of home study, ranging from a half-hour to two hours in grammar grades (No. 8 A) to from one to three hours in high school grades (No. 8 B), or a judiciously selected course of general reading, will not prove harmful. Quite a number insist, however, that this work should be regulated by the parents and no tasks should be imposed by the schools.

Following are some of the opinions expressed:

Prof. J. J. Allison, A.B,, of Boise City, Idaho: Very bad. Makes them nervous and destroys vitality; should not be allowed.

Sarah A. Arnold of Boston: There is too much tension.

Prof. Joseph Baldwin, LL.D., of Austin, Texas: Reasonable amount does not hurt.

Henry S. Baker, Ph.D., of St. Paul: School hours are long enough. It hurts brain cells.

Prof. Edwards Brooks, LL.D., of Philadelphia: It is much less injurious than most of their usual habits of life. Properly guarded it has not any bad effects.

Pres. John E. Bradley, LL.D., of Jacksonville, Ill.: Quieting and helpful if not excessive.

Pres. Chas. W. Eliot, LL.D., of Cambridge, Mass.: Ordinary mental work during puberty has not been shown to be harmful except in the case of some girls during the catamenial periods.

Supt. Aaron Gove of Denver: No harm reasonably directed.

Supt. J. M. Greenwood, A.M., of Kansas City: Study affects them but little, society a hundredfold more.

Prof. O. P. Kinsey, B.A., of Valparaiso, Ind.: Never thought it advisable if they were good students in school.

Prof. F. V. Lester of Westport, N. Y.: It must be very judiciously arranged or it will be very injurious.

Prof. Geo. L. Osborne, LL.D., of Warrensburg, Mo.: If a school is well managed there is little use of it. When the proper interest is kept up in school there will naturally be considerable home study but this matter parents should control. Tasks for home are not to be assigned.

Wm. H. Payne, LL.D., of Nashville: Home study is a great evil.

Col. F. W. Parker of Chicago: There should be very little home study in the lower grades; seventh and eighth grades may do an hour's work outside of school.

Prof. Albert Salisbury of Whitewater, Wis.: It is far less injurious than street roaming and other social dissipations so common.

Pres. Irwin Shepard, A.M., Ph.D., of Winona, Minn.: A large question. Home study is a far less serious evil than social customs and consequent late hours.

Prof. E. R. Axtell, M.D., of Denver: Conduces to hysteria and neurasthenia.

Prof. J. C. Culbertson, M.D., of Cincinnati: Do not believe in home study as a requirement but an encouragement to read suitable books, such as history, biography, travels, and some fiction, the latter carefully selected; none obligatory but made attractive as far as possible.

Jesse Hawes, M.D., of Greeley, Colo.: I believe home study a necessity.

Prof. J. N. Hall, M.D., of Denver: Overtaxes nervous system, I think.

Prof. C. H. Hughes, M.D., of St. Louis: Generally detrimental, tending both to dwarf body and impair development of the brain, nerve power and tone, and to produce precocity and cerebro-spinal irritability.

Prof. Frank Parsons Norbury, M.D., of Jacksonville, Ill.: I advise against it and consider it especially detrimental to adolescents both to physical and mental health.

Wm. Jay Youmans, M.D., of New York City: Would abolish it altogether. It is a convenience of the schools not an advantage to the pupils.

Elizabeth K. Matthews of Des Moines, Iowa: I argue that all study should be done during school hours. It is the business of the school.

Examinations.—The question as to the benefits arising from or the injuries that follow the present methods of conducting examinations in many schools, is one of great importance and deserves careful consideration.

There can be do doubt but that where pupils are subjected to an everlasting grind of monthly examinations, term examinations and annual examinations and are continually being reminded that if they do not do this, or do not accomplish that, they will fail to pass and not receive their coveted promotions, great injury is done. I believe when pupils are subjected to such a system and in addition have the misfortune to be under teachers who failing to realize or appreciate their true needs, give them puzzling problems or work that will mystify them or is too difficult for them to perform, the examination becomes a menace rather than a help to the pupils. They are worried, annoyed and kept in a constant state of mental excitement from the time they enter the primary department of the public schools until the doors of the university are closed against them. Frequently insufficient or no time is given for careful original observation and investigations, for that calm deliberation, serious reflection and earnest thought so necessary to make thorough students, ripe scholars, good citizens and the best type of ladies and gentlemen. And for what are these things sacrificed? In order to give place to facts and details which will make a brilliant show before the public, that will convert pupils into smoothly working machines which turn out highly ornate and elaborate work, to dazzle the dear people and impress them with the wonderful things that the educators are doing.

This kind of a system; especially when conjoined with the pernicious practice of awarding prizes, not only impairs or ruins the health of pupils but has a very degrading effect upon them from a moral standpoint, because instead of imbuing them with a love of truth for truth's sake and impressing them with the fact that truth, justice and honesty are the grandest possessions in the world, a high grade, class standing or a prize is made the *summum bonum*, often regardless of the manner in which it was obtained.

Everyone knows that in order to pass good examinations and win coveted prizes, many pupils will resort to cheating and all sorts of dishonesty and that large numbers of teachers become so myopic in detecting these evils and so presbyopic in looking out for their own interests by having their pupils make a dazzling show before the public, that the honest, conscientious workers do not receive justice, and they either become descouraged or resort to similar means

to make a good showing. Any teacher, by a careful system of grading recitations and a systematic preservation and inspection of the work done by the pupils, together with a general review of the subject matter gone over, say three times a year, can arrive at a much and better knowledge of the *capability* of pupils and the *progress* they have made than can be obtained by continual examinations.

What we most need in educational work is a symmetric development of all the powers, physical, intellectual and moral, of the child; a more thorough appreciation of the fact that in its development the child is an epitome of the development of the race, with many of the impulses and passions incident to the savage, barbarous and semi-civilized phases through which the race has passed, and that in order to attain the best results, instruction must be carefully adapted to the ever changing, ever varying needs of the child; a more thorough and intimate knowledge of the laws of mental development; a better understanding of educational methods and the best means of imparting instruction; better pay for the rank and file of teachers, who as a rule should have a more thorough education and more careful professional training and preparation for their work; more enthusiasm and less routine; more original investigation and search after truth for truth's sake, and less cramming for examinations; less talking and lecturing on the part of teachers and more time devoted to training pupils in systematic and logical analysis, and in clearness and accuracy of expression. Then, too, not so many studies should be pursued at the same time, but more thorough work should be done and a stronger grasp of the fundamental principles on which all true education depends should be secured. More attention should be given to implanting correct moral and ethical principles, because it is better to inspire the heart with a noble sentiment than to teach a fact of science, and because truth, honesty, nobility of character, good manners and a proper regard for the rights and feelings of others are of much greater value to the child than all the book knowledge in the world.

It ought to be needless for me to suggest that the personal actions and behavior of the teacher are of supreme importance in moral training. No teacher who calls pupils, liars, fools, sneaks, and uses similar choice epithets in the schoolroom (and I am sorry to say some still do these things), can exert any but a most pernicious moral influence in the schoolroom. Teachers who are not perfectly truthful infect their pupils with falsehood and deceit; those who can not control themselves and disregard reasonable rules and regulations, destroy the regard for law and order in their pupils and help to increase the army of anarchists.

Particular attention should be given to physical development because this is the foundation on which the whole structure must be built and unless this part of the work be done in accordance with correct hygienic and physiologic principles, the result must inevitably be a failure.

The inculcation of the value of proper food, pure air, plenty of healthful exercise and the avoidance of stimulating and narcotic poisons is of much greater importance to the pupil than the mere formal routine and in many cases machine work of the schoolrooms. Unfortunately, however, the matter is greatly neglected in many of our schools, and pupils are crowded together during long sessions. The foul atmosphere of the rooms and the deadly poisons formed within and exhaled from the bodies of the pupils, cause an accumulation of toxic materials in the system of every child; these poisons, or toxins, poison the blood, poison the brain, poison every cell and tissue of the body, and when long retained may cause kidney and bladder diseases, chronic constipation, and lay the foundation for general ill health. Nor is this all. The general toxemia thus induced leads to mental weakness and moral degradation, because impressions made on a tired brain do not last and pure and noble thoughts can not long exist in a foul body.

In conclusion, I desire to thank the ladies and gentlemen who so courteously answered my inquiries and thereby furnished much of the material on which this paper is based, and from which its conclusions are drawn.

DISCUSSION.

Dr. LONDON of Massachusetts—It is very difficult for me to keep my seat when the matter of educating the child is under consideration. My first child was left in my hands at the age of four weeks. I was recently from the college of New York at that time and I thought I understood the proper care of the boy. Without a mother and without a nurse I proceeded on the milk and water diet, which was then prescribed by the instructor at New York and also by the books. I continued with the milk and water until I found that the child began to lose weight, and then changed to whole milk. He is now 30 years old and far away from here, so I can talk of it with freedom. He reached a full development of six feet or more, and good physique, so I was very well satisfied with the method I pursued. He also had plenty of air. Two windows were open 365 days in the year, and the boy grew 365 days in the year, and without a cold. He did have one childhood disease, mumps, and he did stay in the house then for one day. That is the only time he was ever kept in the house. His training field was in my strawberry field, because I did not like to see the little one kept away from home so long. Part of his time was spent in reciting to a chosen teacher. The children now are being spoiled in the schools. I have been a superintendent in the school and for several years a schoolmaster, and it seems to me we are aiming at everything above this point and we are spoiling everything at this point. The doctor is called upon to supply bone and muscle and heart, and the teacher is called upon to supply grammar.

The child is kept in school from five to fourteen years and as much longer as they desire to stay, without regard to health. A 15 year old boy coming from the country is more promising than a city boy who stays in school until he is 20 years of age. I was so much disturbed by this that at one time I inquired whether the parents had not done as much damage as the saloon in the past decade. After this they passed me by for a while, but afterward they came to me and asked how I could say such a thing. Later I challenged the educators to discuss the matter, but they did not respond.

Dr. JEFFRIES of Chester—I came here this afternoon to hear some specific direction as to the care of the children in the public school. Both as an old director and a school teacher of long standing, I have been deeply interested in this subject. We have, in our town, some school houses as near right, so far as the heating, ventilating and the seating are concerned, as we know how to build them. They are entirely modern. It has taken a good many years of my life to get to this point. A few months ago I began to study the inside workings of the school. I happen to have in my pocket a copy of programs, taken for an entirely different purpose, which may I think throw some light upon the want of health and the generous nervous debility and weakness which is so common in our school children. In this State children enter school at 6 years of age, and in our town the 6 year old child studies every day, the following curriculum: Drawing (otherwise called form study), writing, nature study, reading, spelling (with special reference to diacritic marking), physical culture board work, music, physiology and hygiene (with special reference to the dangers of intoxicating liquors, etc.). They do that at 6 years of age in our school today, and we have schools that are entirely up to date. I was afraid we had nothing more. We have not gotten as far as the ninth grade. After they have been in school six years they study arithmetic, grammar, geography, spelling, hygiene, writing, drawing, music, reading, physical culture, and history.

Now, if that does not account for a good deal of the trouble we have in our public schools, then I do not know anything about public school education.

Dr. ELLIS—I would like to say just one word with reference to the correction to special deformities in the gymnasiums. I think we have reached a point now in the care, especially of the orthopedic cases when it is time for the physicians to take a stand and not send the abnormal cases into the gymnasiums. I do not think we have any more right to send these cases to the gymnasiums than we have to send cases to the druggists and ask them to prescribe for a given disease. The gymnasium, as I understand it, is for the treatment of normal and not of abnormal children. I am practicing in the specialty of orthopedics and I have had several cases made worse by gymnasium work. We should put these cases in the hands of people who do this work, especially not in gymnasiums.

Dr. T. C. MARTIN of Cleveland—The subject of the noon lunch is certainly of great importance. In passing through a crowd of school children we find very often a candy sack, and usually, there are grocery stores and similar stores in close proximity to the schools, where many children go with five, ten, fifteen or twenty-five cents and buy so many pickles, some candy and perhaps a piece of pie. That is the sort of a lunch that they partake of before returning to the school, and then they are asked to apply themselves directly to study. Those of us who are in large cities as a rule have to get a very light lunch. In college I could work better when I had hardly anything for lunch, perhaps only a cracker and some milk or something a long that line. If I had a pretty substantial lunch I could not do as much work. It seems to me a lunch provided by the school would be an excellent thing, for we could then regulate the quantity and especially the character of the food. It is difficult to work hard directly after a heavy meal, and it would be well if we could control the kind of food. We can not depend on the mothers and children to call on the family doctor and follow out the physical care of the children, nor can we depend on the gymnasium as such to develop the child properly. I have had some connection with the Young Men's Christian Association. Several of my classmates have been directors in this line of work and, while they are medical men and have direction of the classes and can examine the heart and general physique as a physician can, they can get some result. But that the gymnasiums are doing much harm I know from my conversations with these directors. Most of the pupils are not examined by the doctor. It is the same way in the schools. The child should be examined by the physician before taking up any study or systematic exercise. But parents are careless and as long as the child is not ill they will not send for the doctor, and so we must extend the public school system along this line. In New York we have made some advance in this way, inasmuch as all children must be examined.

Dr. J. A. LARRABEE of Louisville—The subject I consider the most important is the co-relation of physician to teacher. As Professor Bartlett has said, we are going in the right direction, but in meantime many valuable lives will be sacrificed. As a matter of fact, growing out of our public school system, while we have ostensibly fine buildings and everything in the curriculum that could be desired, we are having wrecks about the period of puberty that might be prevented. These disastrous effects fall most heavily on the female sex and, at that, about the time when nature is struggling to make developments essential to the organism and the educator is struggling to make developments essential to the graduation of his pupil. There is in fact a perfect cyclone to the system at the time of the establishment of menstruation. I suppose it is in your experience, as it is in mine, that we have frequently to interdict, although with great regret on the part of the parents, the further progress of the student.

I am not at all surprised that Philadelphia should be the first city in the Union to take an advanced position in regard to luncheons. My experience since I have been in your city is that it is luncheon all the time. It is constant with the treatment we have received here and I am prepared to understand why the school luncheon system should begin in the city of Philadelphia, the city of philanthropy. In regard to gymnastics, I would say that, not including the cases of deformity, I do not suppose in many instances children will be put on the rack. With reference to rhythmic systematic gymnastic exercise as a relaxation after study, my idea is opposed to a systematic or rhythmic exercise by any plan which does not let the mind rest. If you have a plan or a rule to go by, the mind is constantly exercised and you will not get the mental rest and distraction that you should have, and such as we do have in an outdoor free roll and tumble exercise. I do not believe rhythmic exercise in the schoolroom should supplant the outdoor free exercise.

Now as to overstudy. Here we have ten studies, which it is impossible for a student to do justice to. If there is any fault in the present system of education, from the common school through the high school and into the colleges, it is the destruction of the individuality of the student. Students are educated until they can not find what they want when they want it, and they become educated imbeciles.

Dr. SIGDOWSKY of Philadelphia—I have two children, whom I have watched since they were 5 years old. I find that the number of studies is not oppressing and difficult when the schoolroom is bright and airy and the school teachers humane and congenial. They come home with half the lessons learned. But I find when they convene in a class where there is not sufficient light and air and the teacher is bent on making it very disagreeable for the children, they do not get along as well and do not eat as well, and altogether they are in a worse condition. The studies may be numerous, but they do not get so much at a time but they can master it. There is one thing to be said about the schools in the poorer sections of the city. Those schools are in a less sanitary condition and the children have neither proper surroundings at school nor at home. I think it would be well if we as physicians would think of that and try to recompense the children in the schoolroom for the deficiencies at home. In this city we have advocated the means of having at the schools some matron and a room set aside for washing the children's faces and hands and combing their hair, and for giving them a bath at least once a week. I am now speaking especially of the poorer part of the city. I have watched the progress of affairs there and we certainly need active work for the good of the children. I think they need a great deal of our consideration.

Dr. KANE of Kane, Pa.—There is a little too much effort to find fault with the forcing of instruction at schools and too little effort made to look after the scholars outside of schools; at least, it has seemed so to me in the country district I come from, a town of about 6,000 inhabitants. There the children are allowed to have their own way. Many children 8 or 10 years of age are out until 8 or 10 o'clock at night, about the streets, doing just as they please. They often come into the house and go to bed without the parents knowing anything about it. When they are engaged in places outside of the school there is also very little attention paid to them, and in this way they acquire many bad habits and get a great deal of ill health that is attributed to the school life. For instance, cigarette smoking is very common among many children, as is tobacco chewing. It is an actual fact that intemperance is to be found among these children. It is said that these children can not get liquor, yet the fact of the matter is there is always somebody to buy liquor sufficient for them, and on two occasions last summer as many as eight or ten children were seen intoxicated at ages varying from 8 to 12 years. Then, these little secret societies are extremely injurious to the nervous system of the children, and their morals generally. I had occasion to treat two children last year, one 12 and another 9 years of age, a boy and a girl, for gonorrhea contracted in a secret society of about fifteen members, children varying, I think, from 7 to 18 years of age. Most of these secret societies are not what they ought to be, and parents never seem to look into the matter to ascertain what is going on in them. It is impossible for the school teachers to look into all these matters.

Dr. EDWIN ROSENTHAL of Philadelphia—I began my education at the age of 4 years, and when I was 12 years old I entered the Central High School of Philadelphia. When I entered the College of Pharmacy I found that much I had learned was of little use to me, and I found that my right and left sides were not alike. So I thought there was, perhaps, something wrong in the public schools. Therefore, I placed my child under Professor Bartlett. The first two years she had only two hours daily, the next four years she had three and a half hours daily, and then until maturity four hours study daily. She practices calisthenics and has a daily lunch, and she has what I did not have, that is a love for the school. The gentleman in his paper laid considerable stress on whether or not the child thrived, determining whether or not the school was doing good. My little one has a good appetite, sleeps well and I have her in as perfect a school as there is in this city or any other city.

Dr. I. N. LOVE of St. Louis—I feel the subject is one of vital importance, and I have been impressed every day since I have had children, and even before, that the physician does not do his full home duty in instructing the mother in her duty to the children and school. The physician comes in closer contact with the child than anybody else, save the mother. The physician should represent the highest type of manhood. The parents should be instructed in the manner of teaching their children and they should take an active part in the selection of the school boards. I believe the father shirks his duty too

much in his efforts at bread winning, for, in my opinion, the father should be a mother just as far as conditions will allow. I feel that the doctor should impress the father with that fact, for the doctor is placed in a position to be of more service to the parents than anyone else. The clergyman is not in it for one minute compared with the doctor. We as physicians should explain to the parents that they should talk with their child as to its duties to the teacher. The child comes home with its little tale of woe, and too often the mother listens to it sympathetically and does not realize the duty they bear to the teacher. I have been in the habit of instructing the children that they owe a debt to the teachers and I tell them that I must hear from the teacher that they are good children, and they must learn to love their teacher. If the child comes home with a criticism of the teacher he should be corrected at once. He should be taught to respect as well as love his teacher, and that it is his duty to make a friend of his teacher and that if he can not make a friend of his teacher he is to blame. If the child is taught in this way he will have a good time in his school, he will love his school and love his teacher. The parent having done his duty in the question of co-operating with the teacher, then if there is anything wrong he may investigate the teacher.

Dr. S. E. WOODY of Louisville—I have only one criticism on the subject. Everybody is jumping on the school boards and school teachers, but it seems to me we should be thankful for what we have. When I think of the wonderful advance made since I sat in the schoolhouse, with vitiated air except when it was relieved by numerous drafts, sat there from early morning until dewy eve, sat there bound down by a stupidity that was inimical to all advance—contrast that to the great variety of study and the beautiful surroundings children now have. I think instead of jumping on these men we should thank those who are making teaching an art instead of what it was a few years ago, a trial of main strength and awkwardness.

Dr. JEFFRIES of Chester—The Doctor is looking back and calling our attention to the deplorable condition of the schoolhouse when he was a schoolboy. I am sorry he did not compare the average young man then. I would call the attention of the audience to the average young man today as, after the receipt of his diploma, he goes seeking for health and after seeking from the East to the West he comes back on the check forwarded from the East to bring him home.

Prof. J. HENRY BARTLETT of Philadelphia—No more serious indictment could be brought against our school system than that it interferes with the health and development of the child. Fortunately, we live in an age when an intelligent co-operation of forces makes the reverse of this charge true, and our schools may be, in fact as well as in theory, what Dr. Stanley Hall calls them, palaces of health. Even a false regimen of hours and diet in the homes is measurably overcome by the regularity of the school life; if combined with this regularity there is a measure of preventive and corrective physical environment. Educators owe much to the medical profession for pointing out lines for the hygienic treatment of the child in schools. I am here today to submit some evidence of practical experience in these lines in one of the schools of the city. It were impossible, however briefly, to touch all the lines that aid, directly or indirectly, in efforts for the health and development of the children. The medical profession has indicated many lines of work and most of these today are bearing fruit. My remarks are confined to two subjects, but the progress in them is measurably typical of all. City conditions at home and school reflect the tension of business life and the tendency of the age to extreme specialization, so that very great effort is needed to prevent a one sided development. Business arrangements for instance control the habits of our people (in too many instances including the children) in the important matter of the midday meal. Many of our larger financial and even mercantile institutions recognize the effect of this circumstance. and as a measure of economy in securing working ability provide their employes with a dinner. Ideal conditions for children would include a substantial luncheon with the family circle near the noon hour, but in a large percentage of cases this is quite impracticable, and it remains for the school as a matter of self-protection, if for no better reason, to invade the domain of domestic economy and add a kitchen and dining-room to its equipment. In varying degrees this necessity is recognized. In Boston all the high schools have arrangements for luncheon; in Brookline there are ample accommodations in the magnificent high school building, and in Philadelphia a considerable variety of arrangements, from the basket of pretzels at the school gateway to the attractive dining-room of a modern restaurant, may be seen. Speaking for the latter, I may be permitted to remind you that even in matters of this kind the law of development is operative. Parents and children, as physicians well know, need to be educated as to when to eat and what to eat. The stage of sweet buns and fancy cakes precedes the stage of cocoa, milk and nutritious soups. At no distant future our more progressive schools will have *all* children sit down at midday to an inviting repast. Let us be encouraged that the matter is growing and let our medical men believe that their labors in this direction are bearing fruit. On the direct efforts for physical development in our schools, volumes have been written and the gymnasium is amply justified as a necessary adjunct of a good school. It would be out of place for me to deal with this question in its larger bearings. I can but submit to you in a form of a report a very brief chapter of results from a school gymnasium for the last year.

The particular record to which I call your attention deals with 108 girls of 12 years and upward. Seventeen of these at the year were distinctly abnormal in their development, and these have all been "materially helped in *all* parts"; 68 of the 108 have gained in chest expansion, 58 in flexibility of the waist and abdominal muscles, 41 in depth of chest, 50 in increased breadth of shoulders, 74 gained in lung capacity, 56 in strength of back. Of the 108, 67 had shoulders and hips uneven in the autumn; 33 of these were made even and 34 were improved. Eleven of the 108 had spines distinctly curved; 5 of these were made straight and 6 much improved. These figures have reference to school gymnastics taken in two half-hour periods each week, but they reflect also the effect of a pretty faithful effort to overcome defects by free movements prescribed for home work. This is more apparent from the fact that 10 of the total 108 have losses of development recorded and these 10 are those who have not been interested in carrying out the prescriptions or fulfilling the conditions of the class work as regards dress and other circumstances.

I have said enough and reported enough to indicate how our school system can meet the exactions of hard conditions and make an environment in which development shall not be retarded nor health sacrificed. It is not a simple problem, it involves many elements and study and labor along many lines.

I adopt the words of a recent résumé of the results of child-study in one of our educational journals, as a further acknowledgement of the service of the medical profession to education as well as to indicate how far-reaching the efforts are to correct the *defects* of our school system: "The physician is becoming interested in the schools, as at one time was the clergyman. As the physical basis, or at any rate the physiologic concomitants, of intellectual deficiencies and moral defectiveness are coming to be more clearly understood, the physician's function as an instructor of teachers and as an examiner of children as to sight, hearing, touch and symptoms of fatigue or illness, as to temperamental characteristics and 'nervous' peculiarities, as to differentialites in age and sex, are being in turn more fully apprehended. School hygiene, not only as related to problems of heating, lighting, ventilating and sewage, but also to the manner of seating, length of sessions, frequency of recess, size of playgrounds, modes of recreation, as well as to individual 'health,' nourishment, cleanliness and raiment, and finally a more rational instruction of the children themselves in the structure and functions of their bodies, their use and abuse, not to mention the application of gymnastics, all these matters have come to be of vital concern jointly to mothers, teachers and doctors."

SURGERY ONE HUNDRED YEARS AGO.

AN HISTORICAL STUDY

BY DR. GEORGE FISCHER.

DEDICATED TO THE GERMAN SURGICAL ASSOCIATION.

TRANSLATED FOR THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

BY CARL H. VON KLEIN, A.M., M.D.

(*Continued from page 1266.*)

XIX.—DISEASES OF THE URINARY AND GENITAL ORGANS AND OF THE RECTUM.

Lithotomy; Catheterism; Ischuria (strictures, swelling of the prostate); Cystotomy; Hematuria; Nephro-lithotomy, extirpation of the kidney; Hydrocele; Sarcocele; Castration; Varicocele, testicles in the groin; Phimosis; Amputation of the penis; Symphyseotomy; Vesico-vaginal fistula; Atresia of the vagina; Dropsy of the ovaries; Fistula ani; Hemorrhoids; Atresia and strictures of the rectum.

"There are few operations to which surgeons have turned so much attention and which they have performed in so many ways and with so many kinds of in-

struments as *lithotomy*. . . . The operation deserves the preference over internal remedies; it relieves certainly and quickly. In recent times it has been so perfected that one can be almost certain of a fortunate result if it is performed in time by a practiced hand and with a certain precaution." Thus wrote Richter. Lithotomy united the surgeons of all nations in the effort to wrest this operation from the hands of the itinerant lithotomists, with their unsavory secret traffic, and to restore it to science. They distinguished four methods, the major and minor apparatus, the suprapubic and the lateral lithotomy. In order to better locate the various modications of the operation let us group them according to the direction of the internal incision, as urethra incision, prostate incision and bladder incision.

The urethra incision, or the method of the major apparatus, was originated by Giovanni de Romanis (1525) and made known by his pupil, Mariano Santo (Mariano lithotomy). By this method only the urethra was opened and further enlarged. A grooved bent probe was inserted in the bladder, and in the middle of the perineum between the scrotum and the anus everything up to the bulbus was separated, then by means of a dilator the urethra was enlarged and the stone extracted with tweezers. If the stone was of any considerable size the urethra and prostate were so bruised and lacerated by these manipulations that urethral infiltration was unavoidable. Almost half of the patients operated on died. This method, the traditional secret of the Colot family since 1556, was made public (1727) by the last of the family, Franz Colot, and was brought into prominent use be the lithotomists of Norcia. Maréchal and le Dran perfected it, the latter especially improved the bandage after the operation. Schmucker also operated according to his directions, but with a somewhat larger incision, from fear of laceration, and out of twelve lithotomies which he performed during his lifetime, he lost only one. He never needed more than two or three minutes and "could almost maintain that not a single patient need die in this operation if the operator performed it with sufficient skill." The method of the major apparatus, however, was soon displaced from lithotomy and at the end of the century was almost entirely discarded. Morand had reckoned that out of 812 lithotomies performed in Paris within eight years with the major apparatus, 255 proved fatal.

The prostate incision, by which only that gland was cut through and the bladder not injured at all, or only at the neck, is classed with the lateral incision. Franco had originated it in the middle of the sixteenth century. He introduced a grooved probe into the bladder and had it pressed obliquely backward by an assistant in order to force the urethra somewhat to the left. Then he made an oblique incision which began two centimeters in front of the anus and ended in the middle of a line from the anus to the tuber ischii. The urethra was slit up the probe, along whose groove the knife was pushed obliquely through the prostate to the neck of the bladder. The lithotomist, Frère Jacques, first brought the lateral incision into practice. Rau received the operation from his hand and Heister learned it from Rau (see chapter ii). Heister recommended Rau's modification, while Camper rejected it, because not only the body of the bladder but also the neck and the prostate and urethra were affected; it was also dangerous an account of a possible injury to the rectum and to the seminal vesicles. The operation received a further improvement from Cheselden, who really first led the educated surgeons to accept the lateral incision. The number of unfortunate results which he had at first and acknowledged (three times he performed a lithotomy and found no stone) drove him unceasingly to improve his method. In the first, where the incision fell behind the prostate into the body of the bladder, frequent urine infiltration ensued; in the second the urethra was cut behind the bulbus and the prostate was cut straight through to the bladder; in the third, which he retained as the best, a grooved lithotomy probe was introduced into the bladder and adjusted with the groove toward the left side of the perineum. Then, left of the raphe an incision was made which began behind the scrotum, ran obliquely downward and ended in the middle of the anus opposite, a half an inch from its edge. The left forefinger inserted in the wound pressed the rectum back and guided the small, slightly convex and pointed knife attached to the groove of the probe. Directed upward and forward, it cut the urethra together with the prostate, whereupon the tweezers were introduced on a broad gorget. The fortunate results of which Cheselden boasted from that time on (six fatalities among eighty operations) were the reasons for Morand being sent to London (1729) to learn this method and introduce it into France. He himself, in the following year, had seven successes out of eight lithotomies, and later six fatalities out of eighteen operations. In the Paris Charité in five years (1731–1735) seventy-one cases were operated upon according to Cheselden's method with thirty-one deaths; in the Hôtel Dieu within eight years, 604 cases with 164 deaths. Sharp and Bromfield, who devised some four-bladed tweezers, la Faye and Bertrandi, all recommended Cheselden's incision; in Germany Senff and Henckel especially advocated it, so that in the middle of the eighteenth century this method displaced all others.

They endeavored to lessen the difficulty of it by the invention of a host of new instruments. Richter's criticism in this connection says: "The least which one can say of most of them is that they are useless and superfluous, since one can, at all events, make this little incision with any long narrow scalpel." The lithotome caché of Frère Cosme raised the greatest renown. This knife, four inches long, narrow and somewhat curved, was covered by a sheath attached in front, and could be released by means of a spring. Attached to a grooved probe and inserted, they touched the spring and in this way cut through the neck of the bladder. For very large stones Frère Cosme used tweezers provided with iron teeth, with which he thought he could break the stone. Among the advocates of Cosme's method were Acrel (five deaths in twenty-two lithotomies), Steidele and Richter, who described it as the model of lateral incisions.

After it was made known through dissections that by this method, received so favorably in France, the rectum might be injured and the bladder pierced entirely through, it found many opponents. Frère Cosme defended it and declared that of seventy-eight patients upon whom he had operated with his instruments only six had died. In general, Le Cat, and with him the whole academy, opposed the lithotome caché. As a pupil of Morand, Le Cat had at first employed Cheselden's method, but discarded it after 1742. While the Englishman advocated slitting the

prostate to a considerable length, Le Cat announced the principle of cutting through the gland to a less extent, rather risking its laceration in case of large stones and of making the external incision much larger than the internal. Le Cat went to Paris and operated publicly before the Académie de Chirurgie with great success; while once for a period of six years, and among thirty-eight operations, he did not lose one patient. Later he had six fatalities out of nine cases in a single year. At the time of his death (1768) he had performed 310 lithotomies. Günz, Pajola and C. C. von Siebold in particular, brought Le Cat's method into use in Germany. C. C. von Siebold once performed a lithotomy twice upon the same patient in one year, and with success. On the contrary, Richter, whom one of his critics reproached with a lack of observations, since he, with the rarity of cases of stone in Göttingen, had never operated or at most very seldom performed the operation, advocated the principle of Frère Cosme, namely, to always fit the incision as far as possible to the size of the stone so that it could be extracted without force instead of making a small incision, according to Le Cat, and giving it the proper size by extension. To him the danger of a long hemorrhage did not seem so great as that of a forcible extension of the wound. On the other hand, Pouteau adhered rather to the principle of Le Cat. Pouteau ascribed his fortunate results to the fact of gradually extending the wound, in which of 120 patients only 3 died in consequence of the operation. For the incision in the perineum Richter recommended the urethrotome of Le Cat; for the incision in the prostate and the neck of the bladder, the lithotome caché. Besides the latter, as really a perfection of Cheselden's method, a new instrument was devised, which was said to guard against the danger of a possible slipping of the point of the knife; it was the cutting gorget of Hawkins, a surgeon in George's Hospital in London (1753). It protected the rectum and served to introduce the lithotomy tweezers. The gorget raised great applause and displaced, especially in England, the lithotome; Bell and Cline modified it. Desault, who first employed it in France, gave the cavity a stronger surface and shortened the blade; however, he preferred to operate with the lithotome. His results were very varied; once in the Charité fourteen of his patients who had been operated upon died one after another, while twelve others who were operated upon at the same time by one of the monks all recovered; on the contrary, he had in the Hôtel Dieu only two deaths from twenty-two lithotomies. To remove the stone only after a few days after the operation, had already been advocated by P. Franco, and it now found defenders in Maret and Louis. The latter attributed the unfortunate result of the operation chiefly to the fact that it had been completed immediately and he asserted that he had not lost a single patient. Camper, Richter and Loder also favored this method.

We have hitherto had in mind only the usual method of the prostate incision (sectio lateralis); there was besides an incision on the median line and one on both sides. For the former, Vacca Berlinghieri devised the method of making the incision on the median line, behind the bulbus urethræ, to the pars membran.; then a knife was forced into the neck of the bladder and the prostate slit exactly in the middle. But in this way the rectum and seminal vesicles were exposed to injury. In regard to the sectio bilateralis, le Dran recommended the division of the prostate on both sides, but Dupuytren first developed the method further and introduced it into practice.

By the third main course, the bladder incision, the body of the bladder was opened directly by various methods. Celsus had already briefly described an operation from the perineum outward, which later received the name "minor apparatus," or Guy de Chauliac's method, because this surgeon recommended it anew and apparently was the only one in his time who practiced lithotomy. According to Celsus the operation should only be performed in the spring and and in case of boys between 9 and 14 years of age, because only with them could the stone be felt through the rectum. For the extraction nothing further was necessary than a scalpel and perhaps a pair of dressing forceps. An assistant took the child upon the lap so that he sat almost vertical; another held the strongly flexed legs as far apart as possible, and at the same time fastened the open hands at the knuckles. The operator inserted two fingers of the left hand high up in the rectum while an assistant pressed the stone against the perineum with the hand laid above the pubis. The operator endeavored to seize it with his fingers, pressed it to the left and forward, and cut it out. If the stone did not come out of the wound of itself it was extracted with the fingers or with a spoon. In the treatment according to Celsus, Heister first showed how disadvantageous it was to be willing to operate only in the spring, a rule which was pretty generally followed; although the method was confined almost exclusively to the charlatans, yet he advocated it in case of children and for small stones. In adults it was only permitted if the stone was wedged solidly into the neck of the bladder or the pars membr. and it was contra-indicated in case of angular stones and for large strong persons. As an injury to the rectum or the seminal vesicles was easily possible, this method was almost entirely discarded by the end of the century. A second operation from the perineum was that of Frère Jacques previously mentioned; a third, that by Foubert of Paris (1727). He would thrust a grooved trocar between the urinary passage and the neck of the bladder into the previously filled bladder, allow a part of the urine to run out through the groove and then insert a long knife into the bladder. This method produced no good results. It was too difficult to find the right place for the trocar puncture and the bladder with certainty, and a swollen prostate might be injured.

In spite of all the improvements of the lateral lithotomy, it was impossible to remove very large stones without causing various injuries (P. Camper), insomuch that attention was attracted anew to the suprapubic method. P. Franco, the originator of it (1561), operated upon a 2-year-old boy in Lausanne, according to the method of Celsus, although he would not remove the stone. But from the rectum he would lift the stone (as large as a hen's egg) so high with his fingers that he could distinctly feel it near the linea alba, above the pubes; he thereupon made an incision and extracted it. Although the child recovered, yet Franco cautioned against a repetition of this operation on account of the possibility of an effusion of urine into the abdominal cavity. Although Rousset set forth the advantages of this method, defined it in a rational manner and laid the greatest stress upon

previous filling of the bladder (1590), yet the suprapubic lithotomy only came into favor in the eighteenth century. Indeed the contest with the lateral incision continued, but the supapubic was generally recommended for large stones, while for callous bladder and in case of children and fleshy persons it was disapproved of. Douglas and Cheselden in England, Morand, Winslow, le Blanc and Frère Cosme in France, Boretius and Heister in Germany, interested themselves in the matter. Douglas, of the Westminster Hospital in London first performed the operation anew; he syringed the bladder with barley water, made an incision along the linea alba, opened the bladder with a curved scalpel and removed the stone with the fingers. Cheselden and Morand, who first performed the sectio alta (1727) in France, operated in a similar manner. There came to the knowledge of the two Englishmen and two other surgeons, within a few years, thirty-one suprapubic incisions with only five fatalities. In Germany, Pröbisch, regimental surgeon at Königsberg, first accomplished the operation (1726); Senff of the Berlin Charité followed him in 1728. Frère Cosme devised a special modification of the operation (1779) in that he, in the suprapubic lithotomy, bandaged the urethral incision from the perineum in order to conduct the urine and pus off freely, to which he ascribed the entire success of the operation. Without previously expanding the bladder by injections, he severed the pars membr. as in the sectio lateralis, as far as to the prostate. He then cut through the soft parts over the pubis to the linea alba, and perforated this with a so-called trocar-bistoury. Through the opening of the urethra into the perineum a somewhat curved silver tube, in which a pointed needle lay, was introduced into the bladder, which was raised by the mouth of the tube and the needle thrust through. The peritoneum and intestines were held back by the hand. A bistoury fixed in the groove of the needle enlarged the bladder, whereupon the stone was removed with the fingers, which Morand had already extolled as a great advantage over extraction by means of tweezers. Frère Cosme reported eighty-two operations, for the most part successful, and he found many supporters until Ev. Home and Loder entirely discarded the simultaneous incision of the perineum. In the suprapubic lithotomy the surgeons especially feared the entrance of urine into the abdominal cavity. To avoid this Frère Cosme applied an elastic catheter from the perineum outward; Deschamps made the puncture of the bladder through the rectum and Richter adjusted a small bandage to the wound in the bladder. They were also apprehensive of injuries to the peritoneum. To guard against this the bladder was previously distended by means of injections, although Morand protested against such a procedure. Richter at first thought that in opening the empty bladder a particular difficulty of the suprapubic lithotomy was removed, but in later years he laid great stress upon filling the bladder and advised an injection of about a pound or a pound and a half of lukewarm water. B. Bell, on the contrary, preferred that the patient should retain the urine, since the sudden distension of the bladder by injections is painful and dangerous. Heister pressed the peritoneum, with the finger, backward and downward from the symphysis. After the operation he applied adhesive plaster, while B. Bell joined the upper part of the abdominal wound by means of a twisted suture.

The opening of the bladder through the vagina was indeed successfully accomplished a few times (Gooch), but it was not general because of the persistence of the fistulæ, etc. C. L. Hoffmann of Münster suggested the rectovesical incision (1779) after he had twice seen a bladder stone removed through an abscess induced in the rectum; this first gained credit through Sanson (1815). Lithotrity as a method of operation did not yet exist.

Condensed in a few words, the judgment of the surgeons in the second half of the century agreed that the lateral lithotomy should always have the preference, with the single exception of cases in which the stone was very large; then the suprapubic incision was necessary. If in a lateral incision the stone was found to be large, contrary to the supposition, one should rather try to break it up, than to draw it out whole.

Knowledge as to the nature of the stone was first brought from darkness by Scheele. He found (1776) that it consisted of a special acid, lithic acid ("Steinsäure"), and contained no lime. Later, phosphate of lime was discovered in it. Then Fourcroy, who distinguished twelve kinds of stones according to their composition, and Vauquelin (1799), found lithate of ammonia, oxalate of lime, silica, phosphate of ammonia and magnesia, and an animal matter which was regarded as a "glutinating mucus," which held together the constituents of the concrement. Pearson changed the name lithic acid to uric acid. Water rich in calcareous earth and selenite in connection with humid air among other things, was announced as the genesis of bladder stone (Saucerotte) and the basis of every bladder stone was sought in small renal stones (Schmucker).

Surgeons were not inexperienced in *catheterism*. Heister considered the silver catheter as the best and thought that a thick one slipped into the bladder more readily than a thin one. His variously formed instruments were very similar to those of the present day, only the apertures on both sides were larger and longer. In cases of suppression of the urine and paralysis of the bladder, to make possible a longer retention in the bladder he used a flexible catheter, which consisted of a spiral-formed silver wire, an idea of Solingen, which later came into use through Flurant, but which was not favored by Richter. Petit recommended a catheter which, when open, could be closed by means of a button situated at the end of the wire, and gave it an **S**-shaped curve corresponding to the course of the urethra. For injections the posterior end was enlarged in a funnel shape, in order to accommodate the mouth of a syringe (Garengeot and Brambilla). Theden has the merit of the introduction of the elastic catheter into surgery. He had a fine gold wire insulated with silk, wound in a spiral around a thick wire and washed with a solution of caoutchouc. He said in favor of these flexible instruments that they were easily inserted by unskilled hands and could be left in position for a considerable time. Richter at first praised them, but later made the discovery that they were too easily worn out, insomuch that one patient with suppressed urine, for example, found ten necessary within eight weeks, therefore at the price of six thaler each, the expense was too great. They were displaced by the catheter of Professor Pickel of Würzburg (1783), which consisted of silk cylinders which were woven over a probe and covered with a varnish. These lasted longer and were cheaper (five for a louis d'or). The rules for

the insertion of the catheter, as Richter gave them, are still valued. According to him the most important was, never to apply force. The master turn (tour de maître) arising from the charlatanry of the lithotomists of the Middle Ages, to conceal from the bystanders, under complicated manipulations, the introduction of the catheter, he regarded as injurious, but if the catheter would not come out over the prostate, recommended one whose point was bent farther, to the length of about an inch, hence the model of the Mercier instrument.

(To be continued.)

SOCIETY PROCEEDINGS.

Chicago Academy of Medicine.

Stated meeting, October 15, 1897.

(Concluded from page 1270.)

Dr. G. FRANK LYDSTON in the Chair.

REST CURE IN HYSTERIA.

Dr. H. C. B. ALEXANDER—The value of the rest cure in hysteria will turn entirely on the organism attacked. In a degenerate organism or in one with an acquired neuropathy due to traumatism or secondary to constitutional disorders, infections and otherwise, hysteria under the strict Weir Mitchell type of rest cure (especially as conducted by trained nurses without medical supervision) does not do well as to ultimate mental outcome. With the rest cure modified as far under medical supervision as to introduce a healthier mental tone, even this type may improve very decidedly. Improvement in general nutrition without mental improvement is often mistaken for cure of hysteria. As the disorder is practically accepted by the vast majority of neurologists as a psychosis with nervous expression such "cures" are physiologically illogical and do much to injure medical science in popular estimation since they support the claims of the faith healers and other charlatanic enthusiasts. The hysteric inhibitions need strengthening, and unless this be done nothing is permanently accomplished. The hysteric, in my experience, is peculiarly susceptible to suggestion so far as individual symptoms are concerned. Of this, the case of blistering by suggestion which I reported to the Academy some years ago[1] was an excellent illustration. This element of suggestion constitutes at once one of the dangers and the benefits of the "rest cure." Too frequent concentration of the patient's mind on a symptom or group of symptoms tends, under the most simple principle of association, to produce exaggeration or fixity of these symptoms through suggestion. The opposite course has decidedly beneficial effects. This constitutes one of the dangers of the "trained nurse" in this method of treatment. Her desire for objective symptoms due to methods taught as to so-called precision leads to the frequent suggestion of new symptoms to the nosophiliac mind of the hysteric. The same fact should rule diet and medical treatment. In the type of hysteria developing upon a nervous adynamia or brief neurasthenia the rest cure gives undeniably good results but, as in the deep neuropathic or degenerate types, its essential principle of seclusion from improper sympathy, medical or otherwise, must be rigidly carried out. The defects of the rest cure largely arise from the violation of this essential principle. The "cure" should always be under the care and supervision of a physician. "Trained nurse," "rest cure," are no more quackish than other practices of medical principle by [illegible]. To them are due the disrepute the rest cure has obtained with many excellent practitioners. Removal of the patient from the morbidity-manufacturing atmosphere of home is a necessity, but it is no improvement to fling the patient into a lay atmosphere which will manufacture a similar atmosphere by the showy lay use of instruments of precision in the search for symptoms which will undoubtedly be furnished abundantly under such conditions by the hysteric. Diet, medicine, etc., during the rest cure must be suited to each case.

SUGGESTION IN HYSTERIA.

Dr. W. X. SUDDUTH—I was not here early enough to get Dr. Bannister's definition of hysteria; I shall therefore, take the liberty of giving one of my own. Hysteria is a pathologic mental state in which there is increased suggestibility accompanied by lack of emotional control. This being the case, the hysteric state should be very amenable to suggestion; and that is the trouble with it. It is so amenable to suggestion that we get little or no permanent results in the treatment of the disease by suggestion alone. The Charcot school held that hysteria was one of the manifestations of hypnotic suggestion and that necessarily all good hypnotic subjects were hysteric, but I find in the use of suggestion that hysteric patients are the very worst, so far as permanent results are concerned. I would rather treat any other patients than hysteric ones so far as permanent results are concerned, because these patients are amenable to suggestion from all sides. Anything that stands for an idea in the mind of a patient is a suggestion. Whether it be verbal or physical, external or internal, that is suggestion given by some one else, or auto suggestion.

In the treatment of hysteria I find that I get much better results where I couple physical exercise as a basis for the administration of suggestion, putting the patient through a course of "psycho-physical culture." If he will carry out the breathing and physical exercises to be given, the results obtained by these exercises are more permanent than when suggestions are given in any other way. In fact, where emotional prodigality exists, as it does in hysteria, one of the surest ways of controlling it and redeveloping the will power is through a series of physical exercises, muscular training, rhythmic breathing, systematic habits, and a regular military discipline, such as I put my patients on. Accompanying these exercises suggestion is used from which, to my mind, we may confidently expect benefit in proportion to the thoroughness of the system employed.

The statistics given by Dr. Coolidge justify suggestion, if applied in this way, in the treatment of nearly all forms of hysteria. Hysteric cases are difficult to handle, and it requires a great deal of patience to get good results. The very amenability of patients to suggestion is apt to give rise to a recurrence of hysteria. Unless the patient follows out some such line of psycho-physical culture you need not expect permanent benefit to be derived from the use of suggestion in the treatment of hysteria.

GENERAL REMARKS ON HYSTERIA.

Dr. JAMES G. KIERNAN—In dealing with the question of hysteria, the diagnosis is of necessity the first factor requiring consideration. My experience leads me to doubt whether clearly defined demarcations can be made between hysteria, neurotic states and neurasthenia, yet upon such demarcations must turn the questions of treatment and prognosis. In my opinion a neuropathic state may be either an expression of hereditary defect or of some systemic shock from traumatism, or secondary to the great systemic disorders. If nerve tire and resultant neurasthenia be grafted on such a neuropathic state, either inherited or acquired, the resultant will be a condition which in many instances neurologists can not demarcate from hysteria even when this last occurs in a scion of a degenerate stock. Hysteria is not the clear cut symptom-complex of favorable prognosis which many practitioners and neurologists accept as a type. Globus hystericus and unstable emotionalism have not the pathognomonic symptoms that popular medical opinion assigns to them. Either or both may be an expression of an attempt to suppress a deep emotional state and have nothing pathologic about them at all. Usually these two symptoms represent all that there is in the popular conception of hysteria and the gravity of that disorder is thus beclouded into a triviality. From this standpoint it is not difficult to see how hysteria comes to be regarded as due to civilization. Unrestrained shallow emotionalism is characteristic of a lower grade of culture. Civilization tends to restrain emotional expressions, but this implies increased evolution of inhibitions. The absence of these inhibitions would therefore imply a lower grade of culture not due to civilization, but survived in it from savagery with whose sins civilization is so often charged by a certain school of pessimists. Sexual perversion, like hysteria, was said even by Krafft Ebing to be a product of civilization, but an American physician, A. B. Holder, showed that it had existed from time immemorial among the Indians of the Northwest, and that each tribe had its own term for the practice, showing that it had originated within the tribe. If it had been otherwise the practice would been have denominated by a loan word. On the Indian reservation in the interior of New York are both civilized members of the Six Nations whose daughters play pianos as well as those who perform fetichic rites at the feasts of the "White Dog." Hysteria is more common in the women of these last than the first. The dances at the feast of the "White Dog" are marked by hysteric phenomena closely akin to those of the dancing mania of the Middle Ages. In the nineteenth century, speculative changes often lift the lower classes, intellectually speaking, into the plutocratic classes. It is hence not surprising to find hysteria ex-

[1] JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, Vol. xxiv.

ceedingly common among the "higher" classes so constituted, but civilization does not manufacture this hysteria, free from it.

Dr. Butler brought out an excellent point in referring to the case of the eighteenth century servant girl, who had hysterics which might be emulated by some of our fine women of today. She, like hundreds of others were, might be raised to wealth, but civilization and culture would not cause her hysterics. Hysterics I find come from all the nations of Europe, and in the main from the lower stations in life rather than the upper.

A Bohemian general practitioner once insisted that hysteria was rare in Bohemia. I got an explanation at one consultation why, in his opinion, it was rare in Bohemia. He asked me to see a girl of 16 years, whose mother would not let her go to work, but wanted to keep her at school, whereupon the girl had a typical hysteric convulsive attack. She later became paralyzed and anesthetic on one side and had hysteric mutism. On inquiring into the family history I found the mother was similarly affected during her girlhood by the same exciting factors, and that the grandmother had been likewise affected. When the girl was allowed to go to work the convulsions and hysteric hemiplegia disappeared. The practitioner had looked upon these from his ordinary conception of hysteria, which means emotional irritation, globus hystericus, etc. After that he saw a number of cases of hysteria. His opinion in the matter was in marked contrast with that of another general practitioner who had a large clientele among a very hard working class of people, and who observed many cases of hysteria with varied manifestations. He brought me, on one occasion, to see a woman suffering apparently from gallstone colic. She had jaundice and a slightly elevated temperature; but when her husband promised her a new dress the condition disappeared. That woman had worked in the fields in Germany. She had a good many of these attacks. To attempt a demarcation on the ground of apparent difference in the sex or social condition as a method of diagnosis is futile. As regards sex I must confess I would like to find out the difference between neurasthenic cases which have been built upon a pathologic basis and hysteria; when it occurs in the man, and when in the woman. I can not make the diagnosis. I get the anesthesia, the visual field disturbance, and every now and then hysteric ptosis in the man. In attempting to draw this line we are drawing it rather on older ideas than on data that are more obtainable. We are too apt to look at the man who is a neurasthenic as a pure hypochondriac. The subjective results are more frequent than the objective, and they do not vary one iota in my experience from typical hysteria. I have never been able to do much with the so-called hysteric zone, although I have tried repeatedly to do so. One man had a notion which started with his testicles. A grave hysteric condition could be set up from that source.

With reference to the question of traumatism in these cases it is a grave condition, and one that is not easily recovered from. There is often a marked change of character in previously healthy people, which does not subside on receipt of payment of certain damages, as we are frequently informed by gentlemen who devote themselves to railroad interests. The condition continues a long time after. I have seen a marked case manifesting true symptoms of hysteria in a man who fell into the hands of an orificial surgeon for these four years after injury. This man could not be accused in the slightest degree of desiring damages. He was a builder of bridges on the Mississippi. He had been knocked into one of his own boats by his own derrick, had sustained a fracture of the scapula, and it was also suspected that he had sustained some spinal injury. Among the symptoms that were decidedly marked after the accident were retention of urine and anesthesia on one side. The urine, before I saw the man, had been drawn with a catheter. I made a careful examination and my opinion was against spinal injury, but in favor of general traumatic shock. I told the man he would be able to pass his urine that night without a catheter, and he did it. But that man's character completely changed. He improved for a while. That man is now an hysteric, and I doubt if he will ever return to the original condition he was in at the time of the injury.

With reference to the mental condition of the hysteric, he exhibits one of the characteristics of degeneracy, namely, anesthesia of moral sense.

I had hoped Dr. Moyer would be here to take up the forensic relations of hysteria, because hysterics sometimes commit acts with extreme cold-bloodedness, and without apparently sufficient motive. I remember the cases of a girl who poisoned four members of a family. She was a hystero-epileptic. She committed this act with the utmost coldness, without any apparent motive except a slight scolding, and she was only detected by accident. Another phase of the mental state with which physicians are familiar is hysteric accusation, and this has more than once landed many an innocent person into a penal institution or State's prison. In our State we had a case where a hysteric came near landing four men in prison. The community was very much excited over the supposed assault, but the story was too much even for a country jury in its final contradiction. It is the safe rule in an accusation of criminal assault to take into account the possibility of the accusation. With regard to the minor forms of hysteric mental disorder, they are characterized by emotional instability, by emotional irritability and by a large number of hallucinations and other conditions that are in no small degree the product of suggestion. in the grave disorders there are mixed religious and erotic symptoms; women who have seen the Virgin and angels and have talked to them are in a number of cases hysteric.

There is one work in pathology that might be read with advantage, namely, the hagiology. St. Theresa, for example, was a most magnificent case of hysteria. She used to have one part of the time a divine ecstacy which made her have a convulsion and kick everything out of bed. Then she used to faint and her soul would mount up to heaven. She had seen her celestial spouse and would give the usual mixed story of the hysterics. This grave hysteric condition does not tend to pass into dementia, but it is nevertheless a destructive condition as far as the mental state is concerned.

The visual field side has been much discussed and needs little further reference. Charcot claimed, in 1888, that all so-called hysteric unilateral paralysis of the facial, lingual and oculomotor muscles are in a reality hemispasms. This view of Charcot was later abandoned by him and his followers. A case of mine observed some four years ago tends to justify this abandonment. The patient, since this case was first observed, has repeatedly come under my observation for the like condition, which has remained "cured" for a longer time than usual after the correction of certain errors of refraction by glasses. The case is as follows: The patient, a 33 year old married multipara, comes from a family rife with neurotic taint. Neuroses of various types are frequent in this family for three generations. One sister has periodic attacks of nymphomania, whose morbid nature she recognizes and is therefore able to control. The other children suffer from cerebral phenomena from very slight causes. One brother has had infantile hemiplegia with athetoid phenomena. There have been numerous children for three generations, the greater proportion of whom died in infancy. The present patient has visceral neuroses, simulating at times peritonitis and gallstone colic and attended by pyrexia followed by apyretic states, when the temperature falls from 109 to 90 degrees in a few hours without corresponding constitutional disturbances. Paralyses and local anesthesia are easily produced in this state from suggestion.

On one occasion discolorations of the skin resulted from an accidental suggestion that the skin looked slightly reddened at the seat of a paresthesia. The patient had an attack of "visceralgia" simulating gallstone colic. This left her much exhausted, and in this state the suggestion was made by a neighbor that her eyes looked weak whereupon slight amblyopia resulted, followed by double ptosis. The "visceralgia" disappeared under what was chiefly moral treatment, but the ptosis persisted for some weeks. One day while the patient was relating her symptoms a window fell and she passed into a hypnotic state. While in this state the suggestion was made that her ptosis was under full control of her will and that she would hereafter be able to control it. On awakening her from the hypnotic state the ptosis and amblyopia disappeared.

The last attack occurred under the following circumstances: The patient while East had been treated for a headache by the correction of refractive errors through glasses. Soon after her return to Chicago she suffered with a very obstinate subocciptal headache. Through much talk by her friends she was persuaded that this headache was of optic origin and that the glasses had been improperly fitted. She was found to be badly constipated. The persuasion, however, that the eye had been improperly fitted with glasses continued. She finally had a recurrence of the old symptoms of ptosis and amblyopia. This condition, however, disappeared with the disappearance of the headache, which yielded very rapidly to dietetic treatment and cathartics. Since this time (nearly a year ago) there has been no return of the ptosis and the patient has not complained of either eye strain or headache.

If I were to discuss the subject from a therapeutic standpoint I should be exceedingly careful in giving anything but a very guarded prognosis in cases of traumatic hysteria, and some of the graver forms of the affection. I should also use a great deal of care in giving a prognosis from the results of the rest-cure treatment in either one of the two forms of the disease. There is no doubt that the rest-cure has done good in cases of hys-

teria, but most physicians who have seen cases find that it has likewise done a great deal of harm, and has given patients a chance to brood and form fixed illusions and ideas when carried out in routine fashion.

As regards the question of epilepsy, there is one point that puzzles me, namely, the differential diagnosis between the epileptic state in which hysteria occurs and hystero-epilepsy. In well defined cases there is no difficulty experienced in this regard. But take the average text-book and the only diagnostic point is drawn between a grave hysteric attack and a grave epileptic attack, and the hundreds of minor epileptic disturbances that simulate hysteria on the one hand and the hundreds of hysteric disturbances on the other are ignored. The difficulty is further enhanced by the large number of epileptics who have entirely hysteric attacks. I had a case under my care, an undoubted epileptic, and yet of the three attacks he had while under my observation, two were genuine hysteric attacks, the third was a true epileptic attack. For a long time I was puzzled about certain beneficial therapeutic effects, until an explanation was found in the hysteric condition.

With regard to the diagnosis, the temperature may be of some avail, but the physician who watches epileptics in an insane hospital will find temperature disturbances that closely simulate those observed in the hysteric.

A point that may be covered by some of the subsequent speakers, one which is now being raised by certain neurologists, is as to whether the presence of certain tests, like the ankle clonus, are purely characteristic or indicative of organic disease. There have been two or three cases that look very suspicious in that direction. This raises another point to which a number of neurologists are opposed, but on which I am inclined to believe with Charcot, namely, that secondary to prolonged localized hysteria we may have local spinal or cerebral pathologic changes set up. Two-thirds of the secondary changes which occur in certain acute psychoses are due to biochemic lesions. I see no reason for doubting the cases Charcot has published. He published his first case in 1867, in which the spinal lesions found were not changed to hysteria, nor did he attribute hysteria to them, but he believed that they were the secondary results of disease consequent on hysteric contractions.

Dr. Kuh made a statement regarding epileptics which I have heard made quite frequently, that the epileptic pathologic findings are primary. Spitzka and myself made quite a series of careful examinations, examining brain after brain of persons not dements, and found teratologic lesions due to a degenerative condition, but no microscopic or macroscopic lesions.

I can not fully agree with Dr. Sudduth as to suggestion. As to its effect on the disease hysteria itself I admit his position, but suggestion has a most potent effect on causing and removing symptoms. The literature of hysteria is full of such instances.

OPHTHALMIC RELATIONS OF HYSTERIA.

Dr. C. P. PINCKARD—As we all know, eye symptoms may be very prominent in the clinical history of hysteria. They may be briefly divided into disturbances of motion, disorders of secretion, disorders of sensation, disturbances of sight, and abnormal sensations.

1. Strange to say, paralyses are not at all common, while spasms, on the other hand, are very frequent. An exception may be made, however, in the levator palpebræ, which is frequently paretic and not associated with other pareses. According to Charcot, it is particularly frequent in children. The next most common symptom in the muscular apparatus is a paresis of the abducens, or more probably a spasm of the abducens. Of the internal muscles, pareses of the ciliary occur, but the diagnosis is difficult. Paresis of the iris is rare. Blepharospasm is often observed, and a rhythmic twitching of the lid is said to be very characteristic. Variation in the size of the pupils is frequent.

2. Among the disorders of secretion, epiphora is frequent; edema and sweating also occur. They begin and disappear very suddenly, and may be transferred from one side to another by means of the contact of magnets, acids, etc.

3. Of sensation, anesthesias of the skin of the lids, temples, conjunctiva and cornea are very frequent, with or without retinal anesthesia. Paresthesias are also often observed, such as hyperesthesia of the lids, conjunctiva and cornea, with or without photophobia. Pain is very common, especially those pains beginning in the eye and radiating toward the forehead, temple, teeth, etc. These may occur with or without efforts at accommodation. At times tenderness is present in the ciliary regions.

4. The most important class, however, is the disorders of sight. According to Charcot, a pathognomonic sign of hysteria is the concentric narrowing of the field of vision with more or less impairment of central vision and of color perception. This, as a rule, is associated with anesthesia of the conjunctiva and cornea. This disturbance of the sight is usually unilateral, but if it be bilateral it is more marked on one side. Unilateral amblyopia is much more common than complete blindness, but double amblyopia is still rarer. The boundaries of the field for the different colors may be entirely abnormal, so that the curves of the different colors may cross each other, or the order be reversed. Charcot has said that hemianopsia does not occur in hysteria, but others, as Landolt and Glorieux, have denied this. Diplopia or polyopia, either unilateral or bilateral, is a rare symptom, but occasionally occurs. Complete blindness is much more common in one eye than in two, but bilateral blindness is not so rare as it would seem. Within the past three months I have had two cases of bilateral complete blindness, one in a woman 36 years, the other in a child of 14 years, in both of which cases the attacks came suddenly and disappeared as suddenly upon suggestion.

5. Of the abnormal sensations the most important one is the so-called *audition colorée*, that is, certain tones or words produce a coincident vision of color. Still rarer, where certain colors perceived cause coincident tones.

The case of ptosis, reported by Dr. Kiernan, without other symptoms in the eye, is very characteristic. As was said before, this symptom occurs more often in children than in adults.

A diagnosis of hysteric symptoms from symptoms simulated is at times very difficult, and can only be positively made by association with other symptoms in other parts of the body.

PRACTICAL NOTES.

Incompatibility of Hydrochlorate of Cocain and Nitrate of Silver.—If cocain is to be used with nitrate of silver, the nitrate must be used, instead of the hydrochlorate, as the latter causes an insoluble precipitate of silver to be deposited.—*Nouv. Remèdes*, November 8.

Sterilization of Catgut.—Rajewski recommends that the catgut be sterilized while it is being manufactured with a 1 per cent. solution of formaldehyde. This sterilizes the interior, and superficial sterilization is sufficient after this. He considers chemic methods of sterilization more reliable than physical.—*Cbl. f. Chir.*, November 6.

Painful Dentition in Infants can be relieved by frequently washing out the mouth with a 1 per cent. solution of chloral hydrate, which is antiseptic as well as analgesic. Rub the gums to soothe the pruritus with the following: Cocain hydrochlorate 15 centigrams; chloroform, 1 gram; glycerin, 20 grams; essence of roses, 6 drops.—*Presse Méd.*, October 20.

Prophylaxis of Chapped Hands.—After washing the hands with non-irritating soap, rub in the following lotion and allow it to dry on the hands. It is especially recommended to physicians and surgeons. Alcohol, 80 grams; glycerin, 35 grams, rose-water, 30 grams; salol, 2 grams; tincture of musk, 2 drops.—Morel-Lavallée in *Gaz. Méd. de Liège*, August 22.

Mother Solution of Formol for Surgical Antisepsis.—The disagreeable odor of formol is disguised if prepared as follows: Alcohol solution of formol at 40 per cent., 25 grams; tincture of eucalyptus, 5 grams; ethyl alcohol, q.s. to make 200 c.c. Each teaspoonful contains 25 centigrams of formic alcohol; 1 to 4 teaspoonfuls to the liter of water.—A. Reygasse, in the *Semaine Méd.* of November 24.

Oxygenated Water in Psoriasis, Otorrhea and Plugs of Cerumen.—E. Luton reports a severe case of psoriasis cured with injections of an oxygenated serum as follows: 10 per cent. solution of sodium phosphate, 75 grams; oxygenated water, 20 volumes, 25 grams. Local applications of oxygenated water assisted the cure, which was surprisingly prompt and complete. A small quantity of oxygenated water dropped in the ear will soften the hardest wax plugs so that they can be syringed out without difficulty. The efficacy of oxygenated water in purulent chronic otitis, with or without mastoid complications, has

already been proclaimed in America and Belgium. Buys and Lebarre had only three negative results in sixty cases treated with it.—*Semaine Méd.*, October 27, November 10 and 17.

Treatment of Epidemic Cerebrospinal Meningitis with Injections of Sublimate.—Nineteen recovered in twenty-seven cases, all treated with a daily subcutaneous injection of sublimate, varying with the age from 5 decimilligrams to 1 centigram. Improvement was observed after the second or third injection; the pain was relieved so that the patient could sleep; consciousness returned after the fifth or sixth, and the fever gradually subsided. Four to twenty-four injections were required.—B. Angyan of Budapesth in the *Semaine Méd.*, October 20.

Abortive Treatment of Influenza with Calomel.—Freudenthal has been successful in aborting influenza with 10 centigrams of calomel twice a day (men) and 5 centigrams three times a day (women), administered in the first or second day of the attack in epidemics of grip. The temperature falls in six to eight hours, the neuralgic pain subsides and the cure is complete in forty-eight hours, or in a week when the treatment was not commenced until the third day. He combines antipyrin or phenacetin with it if there is much pain, wet packs of the thorax if the fever does not subside, and sodium iodid if there are respiratory complications.—*Presse Méd.*, November 6.

Treatment of Chilblains with Chlorinated Lime.—This substance passes through the epidermis and soothes the inflammation beneath, applied in a salve gently rubbed in for five minutes at bedtime and covered with an impermeable bandage (Rp. Calcar. chlorat., 1.0; Unguenti paraffini, 9.0; M. f. unguent. subtiliss. D. in vitro fusco. For external use). This salve has often cured the obstinate and disfiguring redness of the tip of the nose in women during the cold weather. The chlorinated lime must be fresh and effective and the salve smell strong of lime, otherwise it is worthless. C. Binz, *Therap. Woch.*, October 24.

Compression of the Nerves to Relieve Whooping Cough.—A. de Miranda announces in the *Semaine Méd.* of October 20 that compressing the vagus at the neck checks the vomiting in this disease, and that compression of the superior laryngeal rapidly calms the paroxysms of coughing. The family can be easily instructed how to perform the compression. In the early stages of the affection the bronchi are full of mucus and the cough must be allowed its course, but later the compression will be found practicable and effective. He also reports the cure of one case of uncontrolable vomiting in pregnancy by compression of the cervical portion of the pneumogastric.

Protargol.—Prof. A. Neisser states that he has never obtained such certain and permanent cures in gonorrhea as since he commenced to use protargol. It is a fine yellow powder, a combination of 8 per cent. silver with a protein, dissolves readily and is not precipitated like the other silver salts by albumin, diluted sodium chlorid, hydrochloric acid or sodium. Its general disinfecting power is not yet established, but its efficacy in gonorrhea is beyond question. He uses a 0.25 per cent. solution, increasing to 0.5 and 1 per cent and makes three injections a day, the patient retaining the fluid five minutes after the first two injections and thirty minutes after the last, soon reducing the treatment to the one long retained injection a day. This treatment is so little trouble that it can be kept up three to four weeks and ensures a permanent cure.—*Therap. Woch.*, October 24.

Hernial Tuberculosis is the subject of an extended study by Barozzi reproduced in the *Jour de Méd. et de Chir.*, of October 25. In the twenty-two observations on record the diagnosis was usually uncertain, and the operation alone, which is the only treatment, cleared up the question. The existence of a liquid effusion, the thickening of the sac and the presence of indurated points, are the guide, as the subjective symptoms vary from severe functional disturbances, much pain and edema to merely slight discomfort. Left to itself the termination is always fatal, and the fourteen cases on record have a mortality of 21.4 per cent. Jonnesco advocates herniotomy; the resection of the diseased intestine seems risky to him in such cases. Koenig also asserts that the circumscribed lesions of the intestine have a tendency to spontaneous recovery, but the writer, Terrillon, Routier and others, consider laparotomy indicated, especially when the bacillary lesions have invaded the large peritoneal serosa.

To Disguise the Taste of Cod-liver Oil.—℞: Cod-liver oil, 400 grams; syrup of tolu, 200 grs.; tincture of tolu 12 drops, essence of cloves, 2 drops. Do not emulsify. Shake well before using. Dose: a tablespoon two or three times a day.—Bricemoret, *Rev. Méd.*, November 10.

Dangers of Arsenic in Cutaneous Diseases.—Brocq states in the *Jour. de Méd.* of September 10, that arsenic should only be administered in dry dermatoses, never in the moist kinds, as it makes them worse. He even ascribes some of the keratodermia accompanying Dürhing's disease, to the arsenic treatment exclusively, also pigment patches.—*Therap. Woch.*, November 14.

Eudoxin in the Gastro-intestinal Troubles of Children.—Recommended by Rosenheim for chronic diarrhea in adults, Ladniewski has been testing this bismuth salt of nosophen in fifty-eight cases of diarrhea, and announces that he found it effective in some cases with mucous or purulent discharges that had resisted the usual remedies, bismuth, nitrate of silver, etc. He gives as many centigrams as the child is months old; limit, 50 centigrams, repeating the dose two to three times a day. In other forms of diarrhea it is counter-indicated, particularly in cholera infantum.—*Semaine Méd.*, November 10.

Pyramidon.—The antipyretic and antineuralgic properties of pyramidon, dimethylamido antipyrin, have lately been proclaimed by several who consider it a valuable acquisition. The temperature is gradually lowered from one-half to two and one-half degrees during the two hours after the dose (0.2 to 0.6 gram), and slowly rises again in four to six hours. It has also a marked soothing effect. Horneffer tried it in forty-five cases of phthisis, also in pneumonia and typhoid, and states that there are no inconveniences from its use, which can be kept up for months without injury or lessening of the effect. It proved ineffectual in ischias, but cured trigeminus neuralgia and headaches, the latter in one dose. (*Berl. Klin. Woch.*, No. 35). Two cases of trigeminus neuralgia cured with it were reported at the Congress of Naturalists and Physicians. Feuerstein has found it possible to prevent fever altogether in pulmonary tuberculosis, by the administration of 0.6 gram during the hour in fractional doses. He confirms its harmlessness. No benefit seems to have been derived from it in rheumatism. *Therap. Woch.*, Nos. 41 and 44.

Reduced Mortality from Pulmonary Tuberculosis.—Good effects have already begun to show themselves in New York City as a result of the compulsory notification of cases of pulmonary tuberculosis to the Board of Health. In a report to Mayor Strong, this Board declares as a result of three years' special effort to stamp out pulmonary tuberculosis that the disease is a distinctly preventable one; that it is not directly inherited; and that it is acquired by transmission from the sick to the healthy. Deaths due to pulmonary tuberculosis are now 30 per cent. less that they were twelve years ago. The Board recommends that the law should be amended so that all cases of pulmonary tuberculosis shall be reported to it; that rooms of a patient dying from the disease shall be disinfected; that special care be used in transporting tuberculous patients on railroads, steamers, etc. The general dissemination of a knowledge of the foregoing fact, in conjunction with an application of the principles of an enlightened hygienic will do much not only to further diminish the mortality from tuberculosis but also to restrict its general prevalence.

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Original communications are only received with the understanding that they are exclusively contributed to this JOURNAL.

SATURDAY, DECEMBER 25, 1897.

IS THE APOTHECARY SHOP DOOMED?

Industrial evolution, as well as professional evolution, is constantly changing the relation of individuals to each other. The apothecary shop was originally the medicine-room of the physician. Galen himself is supposed to have used the word, deriving it from the Greek *apotheka* meaning a store or magazine. It was not until the time of Henry VIII. that apothecaries were recognized as distinct from the medical doctors. They were incorporated in 1606 together with the grocers, but later on had a separate organization, and since then have become more and more specialized. Today another change seems to be taking place among them. The manufacturing pharmacist with his large factories and hundreds of workmen, is assuming here and there the duties of the dispensing apothecary.

On the one side the physician has his medicines ready made; his pills, tablets, coal-tar combinations, organic compounds, elixirs, etc., are used as they come from the manufacturer. The apothecary dispenses them as the grocer sells baking powder and soap. No skill is necessary to fill a prescription for "Aunt Martha's Soothing Syrup" or "Roberts' Elixir of New Life." On the other hand, the science of therapeutics is becoming simplified; no twenty-ingredient mixture as in old times; not so much dosing; more expectant treatment; and the pill manufacturer is putting up cough syrups and tonics and fever mixtures to please the taste of the most fastidious.

Where is the apothecary to go? Is he to become a vendor of toilet articles and fancy crockery? Is he to be the commission agent for the pill manufacturer? Or is he to set up a medical advice counter and revert to the old surgeon-apothecary of the Middle Ages?

In the cities, many druggists study medicine and advertise *advice* and drugs for a nominal fee, and, on the other hand, many doctors buy a case of tablets and mixtures and dispense their own drugs. The manufacturing pharmacist in all probability is going to stay and to enlarge his domains. His agents will become more obtrusive, physician's samples will be left in greater numbers, and he will have his retail agents on every corner. Perhaps this is not bad; perhaps it will insure greater uniformity in quality. The large manufacturer can afford to test all the drugs he purchases; he can command the best skill in manufacturing; he can obtain greater accuracy; his pharmacists are not bothered by retail customers, or talkative friends; they need not be overworked and underpaid.

The corner drug store with its boy and one clerk, and its thousand and one things requiring attention, its soda water counter, window cleaning, unpacking of goods, etc., is not in a position to fill prescriptions accurately. The large factory with its labor divisions is surely in a better position.

In the evolution of the trade, the manufacturing pharmacist must supplant the small drug store just as the department store supplants the small dry goods shop.

Even at present very few pharmacists do more than act as agents for the wholesale druggist. They buy their tinctures and extracts, pills and plasters already made. Their infusions are water-diluted extracts; their waters are mixtures of essences. They have not the time nor the means to make their own preparations, and the chances are that the crude drugs they would make them from would be beneath the standard.

And then they must load their shelves with a dozen makes of pills, a hundred and more new remedies that the physician tries once and abandons. Surely the lot of the apothecary is not a happy one. Can the doctor do anything for him? We hardly think so. Economic reasons are at the bottom of it, and the druggist must go the way of the tailor, the shoemaker and the cigar-maker. His education must fit him for the laboratory of manufacturing apothecary and not for the corner drug store.

THE DISINFECTION OF BOOKS.

It has long been recognized by boards of health and others that the disinfection of school books and library books was a peculiarly difficult problem. We therefore note with pleasure that Dr. J. S. BILLINGS of New York City has taken the problem in hand, especially that which relates to the sanitation of libraries.

Attention has been called to this matter so repeatedly that many of the boards of health of the different

States have taken action and caused the State legislatures to make a criminal offense for persons coming in contact with contagious diseases to borrow books from circulating libraries. But the act is often done so unwittingly that some other means seem necessary in order to combat the evil.

Be this as it may, future borrowers from New York's great library can rest assured on this head, for the trustees have already formulated a plan by which means every book that leaves the library shelves will be submitted on its return to a process of sterilization and disinfection that will free it from all its pathogenic properties. Several months ago, when the idea of the consolidation of the free libraries was but yet in its infancy, the officers of the library commissioned Dr. JOHN S. BILLINGS, the future director of the library, to make experiments with a view to determining how such a process could best be carried out, and it is the result of Dr. BILLINGS' investigations that will prevail when the new library is opened.

The agent that Dr. BILLINGS will employ is formaldehyde gas. In actual practice each book as it is returned will be placed in a double-walled box of Russian or Swedish iron, the inner wall of which is perforated, and which has a double-walled door, which will tightly close and inside of which is a false door of glass. In this box are shelves on which the books are laid, the bottom shelf being perforated and opening into a generating box. The books are allowed to remain in this box for a period of two hours, at the end of which time not a trace of live organism can be discovered. Not only does the method not injure the books in the slightest degree, but it actually rids them of the small parasites that infest morocco and calf bindings and which prove such a source of annoyance to those who treasure up old and musty volumes.

THE TEACHING OF MEDICINE.

Medicine can be readily separated into two distinct portions; the scientific and the practical or art. The science of medicine, or better, one should say the sciences used in medicine, can be taught by the specialist whose knowledge of the practice of medicine may be very limited. Chemistry, physics, biology, physiology, anatomy, microscopy, histology, pathology, bacteriology and materia medica are capable of being taught in the class-room and laboratory without the aid of the living human subject.

These branches of science so virtually necessary to the practice of medicine should be taught by men thoroughly trained and competent, and as this requires time for which no recompense is to be had out of practice, and as the knowledge can not be acquired in practice as other specialists such chairs should pay their occupants sufficiently well to permit them to give most of their time to the study.

There would then be a goodly number of anatomists, physiologists and medical chemists who could devote themselves exclusively to these sciences, and who would be scientists pure and simple.

The study of the application of the above sciences to the cure of disease must necessarily be demonstrated on the human subject, and by persons sufficiently acquainted with the manifestations of disease by actual clinical experience to be able to do so completely.

The hospital, dispensary and private practice is the laboratory of the clinician. Every addition to his knowledge can be put to use among his patients for his own material benefit. The position of teacher is in itself a positive benefit, as it brings to him the consultations with his former pupils, and increases his importance in the eyes of the individual who might require his services.

The man who is called to teach one of the clinical specialties of medicine should, if anything, be compelled to endow his own chair, since the advantages to be derived from such a position are quite considerable from a material standpoint. In former times great men gathered about them young students to teach them the art of medicine, or some particular portion of it. And schools were often known as the school of this man or that. Such teachers may have been filled with a desire to impart knowledge, or a love of authority, or only with the hope of gain, but whatever the end, they fully realized the advantage of teaching.

Medical schools in our country are too much concerned about the practice of medicine and too little about the science. The laboratories and scientific branches instead of being relegated to the young men who regard them merely as stepping-stones to some clinical position, should be in the hands of well-paid specialists who will aim to make the subject interesting and complete, so that the student will not shirk them as disagreeable tasks to be gone through with as superficially as possible.

There will be no difficulty in filling the practical chairs without pay if it is generally understood that a consulting practice comes through the collegiate position, and the money so saved should be used to strengthen the other side of the school.

MORE MEDICAL PSEUDO-SCIENCE.

It is not very long since there was reported in the daily papers that a Washington professor, apparently not connected with any of the scientific Government bureaus, had made some remarkable discoveries in microscopic technique which were likely to revolutionize our method and greatly enlarge our range of microscopic vision. His own account of his achievements is contained in the two latest issues of the *New York Medical Times* and is of a character to perhaps deserve notice if not unqualified belief. He claims, amongst other things that by inserting the objective of one microscope into the place for the eye piece of

another he is able to increase the magnification of objects to a most wonderful extent; that he is able to photograph with an infinitesimal amount of light, less than the one-hundred thousandth part of that formerly necessary; that he can make sections the thickness of one-hundredth of the thinnest section heretofore produced and can thus divide a single cell into hundreds of separate slices. To appreciate these claims one has to realize that they apparently mean that he is able to magnify the image in the first of his two connected microscopes to the extent of the magnifying powers of the second; and that his sections, assuming that the thinnest heretofore made were two microns in thickness, would be less than one millionth of an inch in thickness, or less than the wave length of the shortest visible ray of light. We would be justified in some incredulity of these pretensions, were they far less extravagant, and if not prepared to reject them *a priori* from our acquaintance with the physical laws of matter and the laws of optics one could judiciously leave them in his suspense account until such actual and verifiable results were demonstrated as would amount to something more than claims. As it is, however, it is hardly possible to do more than to charitably assume self-deception and nothing more actual than faulty reasoning and imperfect and misdirected observations.

This would be the natural and proper mode of view were these assumed discoveries all that were announced. The author of the papers in the *Medical Times*, however, goes on to lay down at length his theories which one can best describe as a mind-cure system worked up in a pseudo-scientific way. He adopts the theory that mind and vitality are one and that physiologic processes are purely mental phenomena, an old notion that has been revived as a basis for a therapeutic system possibly many times, and notably by STAHL in the beginning of the eighteenth century, but one which requires too many assumptions and too much ignoring of difficulties to meet successfully any truly scientific tests. Plausibly stated, however, and with an abundance of pseudo-scientific verbiage it may easily gain adherents, and its appearance in a respectable medical journal, of homeopathic antecedents it is true, but with a broader and less sectarian tendency than is common amongst such publications, is a matter to be regretted.

In these times when faith cure and Christian science are so much in vogue, it is not surprising that some one should seize the opportunity to bring out a system practically identical with these but without the religious auxiliaries that contribute so largely to the success of these delusions. Such have indeed their disadvantage with a certain class of minds; the liability to medical delusions is by no means confined to church goers, or the religiously inclined. Any system of hysteric therapeutics that starts out like this one with the claim that vitality and physiologic processes are simply mental processes, and that the laws of health and disease and crime are therefore all made manifest "not by faith or through mysticism and symbolism" but professedly by verified facts ascertained by asserted scientific researches, will attract a large class who would reject the same methods offered under the guise of Christian science or a faith cure. Practically it is Christian science for non-Christians, a pseudo-scientific jargon taking the place here of the religious phraseology that characterizes the other; the element of credulity is alike predominant in both.

The whole performance is simply a revival of an antiquated psychologic theory as a basis for a sort of suggestive therapeutics, supported by extravagant statements of alleged discoveries and a few commonplace but misinterpreted experiments and observations.

CORRESPONDENCE.

Department of Health Bill.

CHICAGO, Dec. 18, 1897.

To the Editor:—I was greatly interested in reading Governor Bloxham's communication in the current issue of our JOURNAL (see pages 1284-85) regarding the proposed Department of Public Health having at its head a "Secretary of Health," etc.

Permit me, therefore, to introduce briefly as I can the following additional argument as it occurs to me at this moment, in addition to what has been stated by the Governor of Florida, why such department should be created. Twice within the past five years, namely, during the summer of 1892 and the year following, the commerce of this country was materially disturbed and the lives of the people greatly endangered by a threatened invasion of *supposed* Asiatic cholera, and that more recently, yellow fever has gained entrance to the United States, namely, in 1893 and during the early autumnal months of the present year (as has already been ably stated), wherein many cities throughout the Southern States became infected with the germs of this oftentimes very fatal though *preventable* malady. Such being the case as the *status præsens* conditions exist, it is to my mind not impossible that a repetition of these and kindred diseases of pestilential origin and character may in future invade the United States from foreign shores, and its ravages again result in the loss of many precious lives, a panic among the living (*refugees*), as well as a serious menace and great financial loss to the commercial welfare and industrial interests of our country.

It appears to me, therefore, that every medical society, and perhaps other scientific bodies throughout our land should heartily approve and give their unqualified indorsation to the Department of Public Health bill that has been prepared by the special committee of the AMERICAN MEDICAL ASSOCIATION, and as such was unanimously adopted at the semi-centennial meeting of said ASSOCIATION at Philadelphia in May last, and which was subsequently unanimously *accepted* at the twenty-fifth anniversary (annual) meeting of the American Public Health Association held in the same city in October.

As many associations have already placed themselves on record "by endorsing this bill," the profession as a unit is certainly *uniting* in its manifestation of having the utmost confidence in the ability of this special committee into whose hands this matter was intrusted, and I will go farther by stat-

ing that any additional amendments to said bill should meet our hearty approval so long as the purport of its original intent and meaning shall remain unchanged and the amendments are germane to the bill, for we may not be able to get the bill enacted exactly in its present form and it may become necessary to make some minor changes, etc.

I am also reminded that the holiday season is approaching, and that many of our Senators and Representatives will "go home" on a visit at this time. This will afford "us" a splendid opportunity to personally respectfully request of our friends, our National legislators, that they carefully consider "our" Department of Public Health bill, with the view that favorable action will be taken by them toward passing this already too long delayed measure. And why should there not be a Medical Secretary or a Commissioner of Public Health, to be on a parity and rank with equal dignity as the various secretaries of the other departments of the Federal Government?

Why should the Secretary of the Treasury be longer expected to (nominally) remain at the head of the hygienic welfare of this nation? The answer is, We are too great and have outgrown such ideas.

In conclusion, I trust that Congress, during the present session, will legislate upon this question for the "welfare of the people" as provided in the Constitution of 1787, adopted in 1788, and that every physician throughout the country who has not already personally interviewed his Representative or United States Senator and discussed this topic with him, will do so, by correspondence or otherwise, within the near future, and appeal to him to vote for said bill.

With best wishes for our JOURNAL also in its efforts in this (the right) direction, and for its future prosperity, and a very merry Christmas and bright New Year to all its readers, I beg to remain, Very sincerely yours,

LISTON H. MONTGOMERY, M.D.

Concerning Rates to the Denver Meeting.

SIOUX FALLS, S. D., Dec. 16, 1897.

To the Editor:—Dr. J. F. Jenkins in the JOURNAL of December 11, thinks that if the Committee on Transportation could obtain the same rates to the meeting of the AMERICAN MEDICAL ASSOCIATION that other less important bodies get, we could have at least five thousand physicians present at the Denver meeting next year. Now, we have been informed that the doctors formerly had all they could ask for in the way of rates, until they abused their privileges. The railroad companies finally kept tab, and discovered that in one year, free transportation to the amount of about $60,000 had been called for and used to go to places other than the ASSOCIATION, over and above that actually used in good faith. The railroads thereupon cut off free transportation over each other's lines to their surgeons, thereby punishing the innocent with the guilty.

Hence, the doctors have some of their own numbers alone to blame in that direction. If the committee could induce the railroad companies to grant transportation to their surgeons, under such restrictions that the companies could not be imposed upon, hundreds of railroad surgeons would attend who could not otherwise afford to do so.

The incidental expenses outside of transportation amount to quite an item to the average country doctor.

Our experience with railroad companies is that they appreciate good, honest service, and are liberal with those who do not abuse their privileges. It is certainly to their advantage to have their surgeons use every available means to improve themselves professionally.

It is true, the AMERICAN MEDICAL ASSOCIATION includes all regular physicians in good standing who wish to join, and is in no way intended more for one branch or class of the profession than another; yet the existence of two national associations of railway surgeons, besides numerous smaller ones, demonstrates that that class of physicians are active and progressive; men who would not only be glad to avail themselves of the benefits of the AMERICAN MEDICAL ASSOCIATION, but would make valuable members as well.

Yours respectfully, A. H. TUFTS, M.D.

PUBLIC HEALTH.

Prophylaxis of Yellow Fever.—Lacerda states that the epidemics of yellow fever in Rio de Janeiro are due to the periodic revivification of the germs of yellow fever in certain permanent foci in the interior of houses and the holds of ships, where they propagate, favored by dampness, darkness and filth. They can not live any length of time in sewers nor in open water, nor anywhere exposed to the sun. His conclusions were adopted by the Academia de Medicina, which proclaimed that the extinction of these foci in Rio de Janerio is practicable and necessary.—*O Brazil Médico*, October 22.

Sanitation of Railways and Steam Vessels.—The *New Orleans Medical and Surgical Journal* states that the State Board of Health of Louisiana has adopted resolutions calling attention to the present lack of sanitary measures in vogue on public carriers, notably steam vessels and railroad sleeping cars. The necessity for reform in this particular is too glaring to need defense. No one who travels fails to observe the offence to health and ethics which exists on the steamship or sleeping car. The wash basin is used by the porter for his own toilet, and it is not an infrequent thing to see the cuspidors washed out at the same font. From the standpoint of health, it is familiar to all that no provision is made for those suffering with tubercular affections or with other ailments. We have seen the syphilitic, in acute eruptive stage, use the common drinking-glass, the toilet articles and eating from the buffet crockery. Not long since a lamentable instance was related to us of a woman dying of tuberculosis, on her way to New Orleans, making the car uncomfartable by her spells of coughing and rendering the atmosphere unbearable by the emanations from the decomposing lungs. The Pullman conductor relating the incident, deplored the fact that no provision was made for the separation of such cases. Resolutions can only direct intelligent thought at the remedy, but peristent effort in directing attention to the necessity for some remedial measure must result in its application. State legislatures have it in their power to compel sanitary measures through their State Board of Health, and there is no reason why the legislative action should not go farther in compelling provision for the hospital accommodation in transit for such cases as the above.

Fumigation of the Domicile by Corrosive Sublimate, followed by Sulphur.—The October number of *Public Health* contains the following annotation regarding the disinfection of rooms after contagious disease. Professor Koenig of Goettingen, in a recent article, says that at one time, while he was practicing medicine in Hanau, he suddenly discovered that his bed room was thickly inhabited by obnoxious insects. A friend assured him that he could easily get rid of the pests and proceeded to fumigate the apartment with corrosive sublimate. The success of this measure was most gratifying, and when the room was opened the dead bodies of various kinds of insects were seen strewn about the floor. This incident led the professor to hope that the same means would be effectual in destroying the infectious elements of contagious diseases, and a trial in private houses after scarlet fever or measles, and in hospitals after erysipelas or pyemia, gave most satisfactory results. Since adopting this method he has never seen a second case of contagious disease which could be attributed to infection remaining in the room in which the patient had been confined. The mode of procedure is very simple. From one and one-half to two ounces

of corrosive sublimate are put on a plate over a chafing-dish, and then the windows and door of the room are closed. At the expiration of three or four hours the windows and doors are opened and the apartment is thoroughly aired. The person entering the room should take the precaution to hold a sponge or cloth over the mouth or nose in order not to inhale the vapor. The following day the windows are again closed and some sulphur is burned in order to neutralize any of the mercurial fumes which may linger about the furniture and other articles. The room should then again be aired and cleaned, when it will be ready for occupancy.

Slaughter-House Ordinances in Early England.—In Richard II.'s time we find an act for "the punishment of them which cause corruption near a city or great town to corrupt the air" (12 Rich. II., C. 13, A. D. 1388), the preamble of which notes that so much filth "be cast and put in ditches and other waters and also within many other places . . . that the air is greatly corrupt and infect and many maladies and diseases do daily happen." A century later we find an act under the heading "Butchers shall kill no beasts within any walled town or Cambridge" (4 Henry VII., C. 3, A. D. 1487). The preamble of this speaks of the "Corruptions engendered by reason of the slaughter of beasts and the scalding of swine," the "unclean and corrupt and putrified waters," and adds "that in few noble cities and towns, or none within Christendom, the common slaughter-house of beasts should be kept within the walls of the same, lest it might engender sickness unto the destruction of the people." It was nearly four hundred years later when the 317 slaughter-houses scattered promiscuously in New York City below Eightieth street, were driven out and the work concentrated in clean abattoirs outside. When London was to be rebuilt after the great fire, a law was passed for "the cleansing and scouring of vaults, sinks and common sewers" (19 Ch. II., C. 3, A. D. 1667), and in 1670 another was passed for the better paving and cleansing of the sewers and streets in and about the city of London.

Hospital for Consumptives at Paris.—A part of the large estate of the late Madame Boucicault will be directed to the establishment of a hospital for the treatment of tuberculosis. The hospital is only one of the many objects of charity for which Mme. Boucicault left money, but it is the most important. The buildings have cost with furniture, about $650,000 and a sum of $1,500,000 was left for its maintenace, the interest of which will amount to about $45,000 a year. Any expense not covered by the gift will be liquidated by the Assistance Publique, which, besides receiving money from the city, receives yearly large bequests from private charity. This institution which bears her name, is upon the point of opening, in the charge of Professor Maurice Letulle, who has had marked success in his treatment of tuberculosis at St. Antoine. The new hospital has an ideal situation in the comparatively open quarter of Paris known as Javel, which is on the south side of the Seine opposite Auteuil. The building is isolated, even the four streets inclosing it being wide and little traveled. Although the building is large there will be but 160 beds, as the great object is plenty of space and ventilation. Of these beds only thirty-two will be devoted to consumptives at the beginning, but it is believed that the hospital will eventually become one for such cases only, and the buildings have been planned with that end in view. Sixteen beds are reserved for employes of the Bon Marché; otherwise the hospital will be absolutely free. The main improvements to be noted are in the condition relative to the housing of the consumptive patients. The two wards to be devoted to them exclusively from the start occupy separate pavilions. The wards themselves are glass-roofed galleries, the sides of which may be made entirely open. This is for the air treatment, which is a method constantly growing in favor. The patients will, practically, eat, sleep and live out of doors, without draughts and protected by the glass roof. Only in stormy and very cold weather will the galleries be closed. The flooring is of polished hard wood, the furniture of enameled iron, and there is no curtain or drapery of any kind. The object is to be able to disinfect the entire apartment by means of steam and hot water. The mattresses are made of wood fiber, sterilized and uninflammable, and the system of spittoons is entirely new. The matter of instant sterilization of all discharges from the patients' mouths and throats is to be carefully looked after. Finally, the clothing of patients, nurses and servants is to be specially fashioned, and is to be kept constantly disinfected. The patients, also, are to be graded as to the stage of the disease in which they may be. Incurable patients are to be isolated in smaller rooms away from the wards.

ASSOCIATION NEWS.

Section on Laryngology and Otology.—A bound reprint or volume of the Transactions of the Section on Laryngology and Otology at Philadelphia will be prepared; after publication in the JOURNAL and furnished to subscribers at $1 per volume, provided seventy-five subscribers can be at once received. Those wishing the volume and who have not already entered, therefore, will please send their names without delay to Dr. W. E. CASSELBERRY, Chairman, 34 Washington Street, Chicago. It is urged that as many subscribe as possible as the valuable papers contributed at this meeting will thus be preserved in book form, and the custom of issuing an annual volume established.

BOOK NOTICES.

The Physician's Visiting List for 1898. Leather. Philadelphia: P. Blakiston, Son & Co. Seventy five cents to $1.25.

This visiting list contains calendars for 1898 and 1899. The metric system of weights and measures, a dose table giving both the English and metric systems to correspond with the U. S. P., a table for converting apothecaries weights and measures into grams, and other data. The list is published in three styles, all containing special memoranda pages.

Transactions of the Medical and Chirurgical Faculty of the State of Maryland. Paper, 90 pages. Baltimore. 1897.

This volume of transactions covers the ninety ninth annual session held at Baltimore, April, 1897, and the semi-annual session held at Hagerstown, Md., November, 1896. The contents comprise reports of various boards, committees, etc., lists of presidents, vice-presidents and members, the presidential address on "The Functions of a State Faculty," by Wm. Osler, M.D., and the annual address, "Does Medicine Advance?" by David W. Cheever, M.D.

Transactions of the South Carolina Medical Association. Paper 129 pages. Walker Evans and Cogswell Co. Charleston, S.C.; 1897.

This volume contains the transactions of the forty-seventh annual meeting, held in Union, S. C., April 28 and 29, 1897. The following papers appear: Ectopic Gestation; Observations on Continued Fever; Carbolic Acid in the Treatment of Hemorrhoids; Graves' Disease; Oxygen Gas as a Local Therapeutic Agent; Remarks on Otitis Media and Otitic Syphilis; Up-to Date Treatment of Cataract; Kangaroo Tendon as a Ligature and Suture in Ovariotomy; Dr. Paquin's Antitubercle Serum; Removal of Pus Tubes and Appendix; Acute Opium Poisoning; Trephining for Traumatic Epilepsy; Leucocytosis on Element in Diagnosis and Prognosis.

Transactions of the American Surgical Association. Vol. xv. Edited by DEFOREST WILLARD, A.M., M.D., PH.D. Printed for the Association. Philadelphia: William J. Dornan. 1897.

This volume contains the usual number of interesting papers by members of the Association, and necrology reports on Sir Thomas Spencer Wells, Sir John Eric Erichsen, Sir George Humphry, William Hunt, William H. Pancoast, Perry H. Millard and J. Edwin Michael. The addresses and ceremonies on

the occasion of the presentation and unveiling of the Gross statue are given, an excellent half-tone showing the statue itself with the Army Medical Library in the background. Altogether one of the most notable volumes of this series yet published, especially from a historic point of view.

The JOURNAL has heretofore published an account of the meeting (see JOURNAL, May 15, 1897, p. 947), and commented at length upon the character of this session.

An abstract of the papers can be found in the JOURNAL, May 29, 1897, page 1025.

MISCELLANY.

Errata.—In "Some Practical Points on Infant Feeding and Infant Feces," *vide* JOURNAL, December 11, page 1197, at the end of Formulas 2, 3 and 4, the amount of milk sugar should read 6¾ drams instead of 6¾ ounces.

The Pasteur Prize offered by the "Circulo Med. Argentino," was awarded to Dr. José Sanarelli, for a communication describing his experimental work in the line of immunization against yellow fever. As his article was the only one received, Dr. Sanarelli refused to accept the prize.

The Necessity of Aseptic Cushions for the operating table is urged by P. Klemm of Riga, who recommends for the purpose bags made of stout linen, of the required shape, filled as needed with excelsior (Holzwolle), and sterilized with steam, or the bag and excelsior can be sterilized separately. He has found these cushions convenient, cheap, absolutely aseptic and superior to rubber cushions for several reasons.—*Cbl. f. Chir.*, November 16.

Hay-fever at Carlsbad.—M. Müller reports in the *Wien. Klin. Rundschau* of October 31, his opportunity to observe several cases of hay-fever among Americans at Carlsbad. After describing in detail the familiar symptoms, he mentions that he succeeded in abating them to such an entent that the patients were enabled to return home and not wait for frost as usual. His treatment was a full course of the waters and local applications of a 20 to 30 per cent. solution of argentum nitric., with which he touched the nasal mucosa, following it with a spray of Carlsbad water.

Dystrophia Muscularis Progressiva.—A case was recently observed by E. Bonardi, described in the *Gaz. d. O. e d. C.* of August 15, that combined the more common picture of facio-scapulo-humeral dystrophia of Dejerine-Landouzy with the rarer Brossard femoral dystrophia with pes equinus, etc. Both affections were typical manifestations, non-symmetric, with a functional lesion of the left eye, like a mist constantly before it, which the specialist was unable the remove. The first symptoms appeared at 19, with weakness of the limbs and inability to step on the heel.

The Conductibility of the Nerves in Both Directions is not demonstrated by physiology, but pathology and therapeutics confirm it in many ways, especially by the phenomena of electricity, catalepsy and suggestion. . . . The production and cure of morbid conditions by psychic stimulation appear in an entirely new aspect when viewed by the light of double nerve conductibility. . . . The fact is too often forgotten that the excitations originating in diseased conditions of the nervous system are usually propagated according to entirely different laws and in different directions from the physiologic stimuli. To correct the false deductions we have made in this respect, will be the task of the next generation. . . . Orschanski states that the nervous system is constantly in a condition of activity, which he calls nerve tonus, in its efforts to maintain the temperature and the general economy of the organism. It is probable that this tonus requires centripetal stimulation of the motor nerves and centrifugal of the sensory.—From Prof. M. Benedikt's address in the Phys. Section at Moscow. *Deutsche Med. Woch.*, October. 7.

Spontaneous Sediment; Formation in the Blood a Method of Scientific and Clinical Investigation.—E. Biernacki has established the fact that the sedimentation of the blood is by no means a purely mechanical process, but depends upon certain factors which render it a valuable aid in scientific and clinical investigation along different lines from the hematokrit and centrifuge. The rapidity of the sedimentation is an indication of certain alterations in the blood which no other method is able to detect. It depends upon the amount of fibrinogen in the blood and varies with it. Another fact established by it is that the fibrinogen is in direct proportion to the capacity of the blood for oxygen, and the amount of oxygen contained in it, forcing the conclusion that fibrinogen is an albuminoid involved in oxidation, and hence that the variations in the amount of fibrinogen indicated by the rapidity of sedimentation point to abnormal processes of oxidation. His numerous experiments and the standards he has adopted for comparison are given in full in the *Deutsche Med. Woch.*, of November 23.

Faure's Method of Total Abdominal Hysterectomy is described and illustrated in the *Presse Méd.* of October 19. The abdomen is opened, the surgeon at the left, and the fundus is seized with forceps each side of the median line. With a scissors it is then cut down straight on the median line into the vagina, applying forceps half way down and again to the two stumps of the cervix. Each half then shells out from below upward, like a ripe nut, held only by the utero-ovarian vessels, which are then severed after seizing with forceps. The operation is surprisingly simple and easy. The only disadvantage is the opening up of a possibly infected uterus, but the danger from this is slight and can be prevented by touching the lips of the incision with the thermocautery. It is also an easy matter to disinfect the small pelvis afterward if necessary. The method is especially adapted to suppurated adnexa, as they are removed intact and all danger of infection from this source is avoided. It also avoids approaching the lesion from the periphery, which is frequently laborious and dangerous. He considers it applicable to all uteri of normal or slightly more than normal size. Cut in two from above down, the two halves, freed from their lower attachments, roll out from the vagina upward and can be enucleated with remarkable facility.

A Medical Man Honored.—Dr. Alexander Hill has been elected to the honorable position of Vice Chancellor of Cambridge University. This is the first time in history, says the *Lancet*, that the highest executive office of one of the two leading English Universities has befallen a medical man. John Caius, who, like Dr. Hill, was a student of St. Bartholomew's Hospital, ruled over the College, which he refounded and endowed, from 1559 to 1573, but he did not fill the office of Vice Chancellor. John Harvey was appointed Warden of Merton College, Oxford, in 1644, but lost his office six months later on the fall of Charles I. Of other medical men, if any, who have filled headships of colleges there is, we believe, no record, Dr. Alexander Hill's mastership of Downing alone excepted. Of late years medicine has made great advances at the universities, and we must look upon the election of Dr. Hill not only to the mastership of Downing but to the Vice-Chancellorship of the University as a proof of the increasing influence of our profession at Cambridge, and also as one of many recent indications that medicine is rapidly stepping into a position of equality with the sister professions of theology and law. Dr. Hill holds the office of Lecturer in Advanced Anatomy to the University. He was for some time Hunterian Professor of the Royal College of Surgeons of England. He is the author of many papers on the anatomy and physiology of the nervous system, the translator of Obersteiner's "Central Nervous Organs," and the author of the "Physiologist's Note Book" and other works. Last year he succeeded Sir William Broadbent as President of the Neurological Society and it is as a neurologist that he is chiefly known to the profession.

Treatment of Putrid Abortus, Hemorrhagic Endometritis, etc.—Pincus considers steam almost a specific for these conditions. He uses a wooden speculum and injects a stream of steam at 100 degrees C. for two minutes (*Wien. klin. Rundschau*, October 10). This treatment is enthusiastically endorsed at Prague, where it is extensively applied. The technique there is described in an article in the *Presse Méd.*, of October 2. Schick prefers a boiling water, which he injects into the uterus for one minute, never more than a minute and a half. To prevent burning the vagina, he injects a constant stream of ice-water into the vagina at the same time. The uterus is first dilated and the patient put to sleep; she is also kept in bed until the eschar falls, which requires about three weeks. The wick of gauze in the vagina is changed every four or five days, and the vagina irrigated occasionally. No accidents nor inconveniences were observed at any time. In rebellious hemorrhagic endometritis, hemorrhage after curettement of uterine cancers or after abortion, and the metrorrhagia of the menopause, this treatment has proved a perfect hemostatic. In the first named, two cauterizations at an interval of a month or six weeks, have sometimes been required before the cure was complete.

Holothyrus Coccinella; a New Parasite.—M. Mégnin recently showed before the Paris Academy of Medicine a parasite of a fairly large size which had been sent to him from the Mauritius by Dr. Charmoy for the determination of its zoologic position. It is the holothyrus coccinella of Gervais. Its popular name is "trouille canard," and poultry farmers know its noxious properties so well that they have given up breeding birds in those elevated and damp regions of the island where this parasite abounds, lying hidden during the day under the moss and stones. Even children have often fallen victims when, having found a "trouille canard," they have put their fingers in their mouths after having touched it, for the tongue and pharynx become affected with an exceedingly painful swelling so that they are in danger of asphyxia. With his last consignment of these parasites M. Mégnin tried some experiments to verify the existence of these unheard-of properties. If one is applied to the skin and kept there by a bandage, a burning sensation is felt, which after a time becomes very disagreeable, although the skin is only slightly edematous and exhibits no change of color. Upon mucous membranes the effect is very much more pronounced.—London *Lancet*.

A Simple Regimen for Obese Persons.—Dr. Cathell reports that he has had more than ordinary success during several years with a plan of treatment outlined below. In his view, obesity is due to one or more of the following causes: Congenitally small lungs with a defective oxygenating capacity; eating excessively of all kinds of food; want of lung-expanding exercise; using alcoholic drinks to excess. Many of the drugs which have a known fat-reducing power exert an injurious action on the other tissues of the body, and if used persistently for any length of time, or in efficient doses become dangerous to health. While the various obesity cures are so rigorous that few carry them out conscientiously, the treatment of the author is very simple. The patient has only to drink after each meal a glass of the artificial Kissingen water to be found at drug stores and soda-water fountains, and on the succeeding day, a glass of artificial Vichy water also half an hour after each meal. This is to be continued week after week until the patient comes down to a normal degree of stoutness, and the waters are then discontinued. While taking the waters the person should keep a weekly record of his weight, always using the same scales, and wearing the same clothing, and should also, for his own satisfaction, record his chest, waist and hip measurements. If the loss in weight exceeds two pounds a week, the amount of each water should be made smaller; and if the loss has not equaled two pounds a week, a few teaspoonsfuls of lemon juice should be added to each glass of the Kissingen water to increase its acidity, and a teaspoonful of aromatic spirits of ammonia to the Vichy to increase its alkalinity. The diet should be light and contain only small amounts of fat, starch, sugar, and alcohol. Moderate outdoor exercise should be included in the day's program. The mode of action of these waters taken in the manner described, is not clear, but their efficiency is too well established to admit of doubt.—*Maryland Med. Jour.*

Denver.

THE DENVER AND ARAPAHOE MEDICAL SOCIETY.—At the regular meeting, December 14, Dr. S. G. Bonney reported "An Unusually Successful Result of Thyroid Treatment in a Case of Myxedema." The patient was a woman aged 54 years, whose father died of cerebral embolism, mother and one sister of cancer. Previous history was good. On July 31, 1897, the patient presented the characteristic symptoms of myxedema; features enormously swollen; nose flattened; lips bluish, the lower somewhat everted; eyelids full and distended; constant watering of the eyes; pronounced lemon discoloration of hands and neck; tongue much swollen; speech slow and hesitating; very apparent mental hebetude. Subjective symptoms: Pricking of skin, coldness of feet, frequent sharp burning sensation in extremities; skin dry, hard and fissured; hair dry and coarse; nails brittle; vision and hearing impaired. Temperature by mouth at 2 P.M. 96.4. Pulse 60, weak, compressible. Treatment was instituted, August 3, which consisted of complete rest, and a 2 grain tablet of dessicated thyroid extract, prepared by Armour & Co., two hours after breakfast. After the second dose the temperature had risen to 97.2. On the third day temperature was 97.4. with diminished lachrymation, improvement in quality of voice and for the first time in many months she began to feel the return of strength.

The improvement continued steadily, and on September 3, after one month's treatment, all the above enumerated symptoms have disappeared. She has diminished about one-third in size; lost nearly thirty pounds in weight; feeling of vigor, almost buoyancy; pulse 86; temperature normal, and an apparent complete return to a normal condition has been secured. Only once during the treatment did the patient feel badly, which was attributed to the administration of an additional tablet of the thyroidin. The administration of the drug was suspended for two days and again resumed, without any further trouble. Dr. Bonney in summing up the case, made the following practical deductions: 1. The remarkably short period of treatment. 2. The brilliant results obtained from unusually small doses of the thyroid. 3. The danger attending the indiscriminate and injudicious administration of larger doses especially with the patient not under competent observation.

Dr. J. T. Eskridge, in opening the discussion, gave a short historic résumé of the treatment of the thyroid gland. He highly complimented the work of H. Gideon Wells, Ph.G., of Chicago, for his elaborate and excellent paper on the "Physiology and Therapeutics of the Thyroid Gland" which was published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, October 30, November 6 and 13, 1897. The treatment of cases of myxedema, he said, is divided in two stages. The first is for the relief of symptoms, and the second to maintain the degree of health secured. He usually begins with the administration of two to five grains daily. Rapid action and palpitation of the heart, slight dyspnea, pains in the legs, headache, etc., indicate that the dose should be diminished or that the agent should be discontinued for a few days. He had employed the animal extract in ten cases of obesity with failure to reduce the weight in one. In three of the nine cases thirty pounds each were lost, while the strength and general well-being of the patient seemed decidedly increased. In a number of cases he found it necessary to give strychnin and spartein to sustain the heart during the most active period of the thyroid treatment. The loss of fat is permanent. Dr. Eskridge also made a résumé of the literature on the thyroid treatment in ununited fractures (*British Medical Journal*, Sept. 12, 1897); pelvic congestion (Twelfth International Med. Congress "Gynecologie"); skin diseases (*N. Y. Med. Jour.*, Nov. 20, 1897); mental diseases (*Journal Mental Science*, January, 1895; *Dublin Jour. Med. Science*, August, 1895; "Practical Therapeutics," vol. ii, p. 292). He thinks it probable that it might be used with advantage in some of the depressive states of the nervous system, and in cases of retarded development both mental and physical. He is at present trying the treatment in a few cases of infantile cerebral palsies. Drs. Edson, Freeman and Rothwell each reported a case of myxedema in which the thyroid treatment was successful.

Dr. CHAS. DENISON read a paper entitled "Passing Consideration of the Antitoxin Treatment of Tuberculosis, Wayside Remarks on the Direct (tuberculin preparation) Versus the Indirect (animal serum) Method of Immunization Against Tuberculosis." He prefaced the paper by the following remarks: "From the absurd advertisement of a Swiss barber, 'Tuberculin injections given here,' and the equally preposterous belief which at first prevailed that a means to destroy tuberculosis has been discovered, as easy of use as a household remedy, we have come to learn that if cure it will, it must be

by a concentration of skilled effort, and by a technique involving as much discrimination in diagnosis and care as does the differentiation of a complicated eye refraction, the microscopic determination of blood changes due to disease, the endoscopic study of internal organs or any other delicate field of professional work." He divided the tuberculin products into two classes: A. Those which are supposed to work by their toxin, creating or stimulating the production of an antitoxin in the blood of an affected person. B. When the antitoxin has already been produced in an animal's blood, preferably one already immune, and then through its serum made available in the treatment of tuberculosis.

To the first class belong: 1, the crude original tuberculin of Koch; 2, tuberculocidin, Klebs' first modification of the former; 3, antiphthisin, practically the same product as Klebs manufactured in this country; 4, tuberculinum purificatum of Dr. Karl von Ruck of Asheville; 5, purified tuberculin of Dr. Whitman of Los Angeles; 6, oxytuberculin of Dr. Hirschfelder of California; 7, Koch's new tuberculin (T. R.); and 8, Dr. Karl von Ruck's watery extract of the bodies of the dead bacilli.

To the second class belong: 1, antitubercle bacilli of Paul Paquin; 2, Professor Crandal's (St. Louis) serum; 3, the serum prepared by the H. K. Mulford Co. of Philadelphia, and the antiphthisic serum (T. R.) made by the John T. Milliken Co. of St. Louis according to the formula of Dr. Carl Fisch. This serum is peculiar in that the selected horses from which it is taken have been strongly immunized, charged with Koch's new tuberculin (T. R.), the process usually taking four months and the serum being drawn fourteen to twenty eight days after the last injection. When it is considered that for a last dose 150 c.c. are given the horse, we can get some idea of the enormous load of tuberculin these animals are carrying in their blood, by remembering that according to Koch the initial dose of tuberculin (T. R.) should be one five hundredth of a milligram. Dr. Denison gave in brief the result of the various experiments of Dr. Fisch, and the histories of seven cases which he himself treated with the last named serum. Dr. Denison has obtained good results in all his cases, and has not met with any untoward effects so frequently encountered in the use of the other tuberculin preparations.

Dr. BANE reported a case of an "Animate Body in an Ear." The patient, a woman, was exposed in a storm in Arizona and for several days the cold wind blew against the right side of her face. A day after she experienced a peculiar sensation in her right ear. The ear became very painful, swollen, tinnitus constant, with severe pain in the salivary glands upon taking liquids or doing anything that would excite the flow of saliva. On looking into the right canal he noticed a greenish substance that almost filled the membranous portion, which he easily removed. It was found to be a lively insect 4 by 6 mm. in diameter, and 2 mm. thick. It lived for two days and was identified as a wood-tick, *Ixodes*.

Louisville.

HEALTH OFFICE.—It has been announced that the new Board of Public Safety appointed by Mayor Weaver will remove Dr. W. P. White from the office of Health Officer and appoint as his successor Dr. M. K. Allen. Dr. White has had the endorsement of the Louisville Medico-Chirugical, the Clinical, the Surgical, the Falls City Medical Society and the Practitioners' Club, besides the private endorsement of the majority of the practitioners of the city; yet in spite of this the removal of Dr. White has been decided upon. From present indications it was decided upon before the election. Dr. White has made a most excellent record as a health officer and it is a great disappointment to all that this office has been made a political gift.

FALLS CITY MEDICAL SOCIETY.—At the last meeting of this Society Dr. Albert Muench read a paper entitled "The Treatment of Acute Urethritis."

REPORT.—The seventy-third annual report of the Eastern Kentucky Asylum for the Insane has just been issued by its superintendent, Dr. Edw. M. Wiley, for the fiscal year ending Sept. 30, 1897. The Board of Commissioners in their report, embodied in it, ask for an appropriation of $10,000 for the purpose of constructing an adequate artificial sewer. This will be referred to later in speaking of the superintendent's report. An adequate hospital and a gas plant is also asked by the commissioners. Several thousand dollars will be needed for the necessary repairs to the buildings, which is not to be wondered at when it is remembered that this asylum is the oldest one west of the Allegheny mountains. It is urged by the commissioners that the appointment of the superintendent be taken from the Governor's hands and placed in the commissioners', thus removing it from politics entirely. The census at the close of the year showed 817 inmates, 1,027 being treated during the year. The place is in a most deplorable sanitary condition, with a sewerage system which overflows, damming the refuse back until it has contaminated five cisterns, the typhoid bacillus being found in two of these and sewer gas in the rest. As a result of this there have been forty-two cases between August 12 and October 31 of typhoid fever. The report goes on to say that there is no provision for examining patients or their care beyond the public wards and the rooms in which patients are confined, and as a result of this ten attendants requiring treatment during the typhoid fever epidemic had to be sent outside the building. The provision for the erection of a suitable hospital is earnestly urged. There were a total of 103 deaths during the year. As to the age of those admitted during the year it is interesting to note that thirty-four of the 236 admitted were between 20 and 25 years and thirty-five between 25 and 30 years. Fifty-eight of the females admitted were domestics. Thirty-three of the males were farmers and forty six farm laborers. The remarkable number of insane among the farming class was called attention to on a previous occasion in these columns. Consumption caused seventeen deaths and pneumonia twenty-six. The cases of pneumonia occurred at the time of the overflow of the sewer. Farm and garden products to the value of $12,827 were produced on the lands of the institution during the year.

CHANGE OF ADDRESS.

Atwater, M. B., from Marysville to 107 Grand St., Helena, Mont.
Becker, E. C., from Riverside to 1755 Milwaukee Ave., Chicago, Ill.
Drake, G. W., from Chattanooga to Nashville, Tenn.
Davidson, S.S., from Mercer to New Castle, Pa.
Holmes, W. F., from 461 Ogden Ave to 240 N. Kedzie Ave., Chicago, Ill.
Lehan, J. W., from Chicago, Ill. to Alexander, Ia.
Pressey, A. J., from 841 E. Madison Ave., to 960 Fairmount Ave., Cleveland, Ohio.
Prather, D. J., from Little Rock, Ark., to Los Angeles, Cal.
Reynolds, J. F., from Louisville, Ky., to Mt. Sterling, Ky.
Scherer, O., from 464 Jefferson Ave. to 106 Miami Ave., Detroit, Mich.
Schultz, W. C., from Lomira to Mayville, Wis.
Stout, J. C., from Los Angeles to 911 Laguna St., San Francisco, Cal.
Storer, W. D., from 1402 Wrightwood Ave., to 485 E. Fullerton Ave., Chicago, Ill.
Tuggle, S. P., from 302 Stockton St. to S. E. corner Geary and ... ton, San Francisco, Cal.
Welcome, J. W. B., from Sleepy Eye, Minn., to 620 Jefferson St., Los Angeles, Cal.
Wysor, J. C., from Charleston, W. Va., to Clifton Forge, Va.

LETTERS RECEIVED.

Braymer, C. W., Camden, N. J.; Blanck, J. E., Allentown, Pa.; Bonner, C. A., Dayton, Ohio; Byerly, A. J., Cogson, Iowa; Bellevue Hospital Medical College, New York, N. Y.; Brown, LeRoy, Heron Lake, Minn.; Baker, A. R. Cleveland, Ohio.
Chesterman & Streeter, Philadelphia, Pa.; Cleveland, C. C., Minneapolis, Minn.; Center, Charles Dewey, Quincy, Ill.; Casselberry, W. E., Chicago, Ill.
Dios Chemical Co., St. Louis, Mo.; de Schweinitz, E. A., Washington, D. C.
Fischer, Louis, New York, N. Y.
Henry, F. A., Louisville, Ky.; Hospital College of Medicine, Louisville, Ky.; Hummel, A. L., Advertising Agency (4), New York, N. Y.; Hoffman, N. W., Philadelphia, Pa.; Hertzler, Arthur E., Halstead, Kas.; Herriges, F., Hingham, Wis.; Hughes, C. H., St. Louis, Mo.
Klingensmith, T. A., Jeannette, Pa.; Koechl, Victor, & Co. (2), New York, N. Y.
Laconic Publishing Co., New York, N. Y.
Moffitt-West Drug Co., St. Louis, Mo.; Mariani & Co., New York, N. Y.; Medical Electric Co., New York, N. Y.; Mogk, W. A. (2), Ann Arbor, Mich.; Merrick, M. B., Passaic, N. J.; McCullough, G. T., Missoula, Mont.; Moore, W. H., Brockport, N. Y.
Oelrichs & Co., New York, N. Y.; "Oak Grove," Flint, Mich.
Price, J. Wesley, Booneville, Miss.; Pigram, Ell, Duncan, Miss.
Rosenthal, Edwin, Philadelphia, Pa.; Reber, Wendell, Philadelphia, Pa.; Rice, I. L. G., Auburndale, Mass.; Reynolds, L., Horton, Kas.
Stevenson, Sarah Hackett, Chicago, Ill.; Schering's Grüne Apotheke, Berlin, Germany; Savage, G. C., Nashville, Tenn.; Smith, Kline & French Co., Philadelphia, Pa.; Sweetser, H. B., Minneapolis, Minn.
Thom, D. M. B., Mardin, Turkey, Asia.
Wright, John, San Jose, Cal.; Wagley, T. J., Cleburne, Texas; Weston, Frank R., Onalaska, Wis.; Wingate, U. O. B., Milwaukee, Wis.; Walesby, A. E., Louisville, Ky.
Yucca Mfg. Co., Jackson, Mich.; Young, F., Rural Dale, Ohio.

THE PUBLIC SERVICE.

Army Changes. Official List of Changes in the Stations and duties of officers serving in the Medical Department, U. S. Army, from December 11 to 17, 1897.

Capt. Isaac P. Ware, Asst. Surgeon, ordinary leave of absence granted, under orders for duty at Benicia Bks., Cal., is extended one month on account of sickness.

Major Louis Brechemin, Surgeon (Ft. Sherman, Idaho), is granted leave of absence for one month, to take effect about Dec. 15, 1897, with permission to apply to the Adjutant General of the Army for an extension of two months.

First Lieut. Guy C. M. Godfrey, Asst. Surgeon, will be relieved from duty at Ft. Sheridan, Ill., and will report in person to the commanding officer of the detachment of troops at Finn's Point, N. J., for duty at that place and at Ft. Delaware.

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